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FOR CALIFORNIA

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THE COLLEGE OF AGRICULTURE
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THE 1937 AGRICULTURAL OUTLOOK FOR CALIFORNIA^{1,2}

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SUMMARY OF FRUIT OUTLOOK

LARGELY BECAUSE OF PROSPECTS for further substantial increases in citrus-fruit production, the combined supplies of all fruits in the United States can be expected to show a continued upward trend during the next four or five years. Normal production of fruits as a whole will, therefore, be considerably greater than the 1936 fruit crop which was about 7 per cent less than the national average for 1931-1935. Yields of deciduous fruits, particularly of apples, were unusually low in 1936, especially in eastern and midwestern states so that their production of these fruits as a group was about 18 per cent below the 1931-1935 average. Preliminary forecasts indicate 1936 citrus production as about 25 per cent above the 1931-1935 average.

Consumer demand for fruits as a whole is such that large crops tend to bring about the same gross farm income as small crops. Increased consumer buying power is expected to be a sufficiently favorable influence so that average fruit prices and gross farm income from sales of all fruits combined will probably improve in the United States during the next two or three years. However, such improvement cannot be expected regardless of production. Citrus prices as a whole may be expected to decline because of the marked upward trend in the production of these fruits. On the other hand, apple and peach prices for the United States as a whole will probably show some improvement during the next few years. Because of the appeal to consumers of certain fresh and canned fruits and fruit juices and the extensive campaigns to enlarge the market for them, the demand for, and consumption of, some of these

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² In the preparation of this report information was obtained from many sources, among the more important of which are the United States Department of Agriculture, the United States Department of Commerce, the California Coöperative Crop Reporting Service, the Federal-State Market News Service, and other branches of both state and federal governments; also many coöperative associations, agricultural committees, commercial firms, and trade associations. The national *Agricultural Outlook for 1937* prepared by the staff of the United States Department of Agriculture Bureau of Agricultural Economics, assisted by representatives of the State Agricultural Extension Services has been particularly helpful and has been quoted extensively for those products which are not entirely produced in California.

fruits will probably continue to increase partly at the expense of certain dried fruits.

Substantial improvement in the demand for fruit during the next two or three years seems to be more certain in the domestic market than in foreign markets. However, if the fruit industry of this country maintains high export standards, there should continue to be a profitable outlet for substantial quantities of our fruit in export markets even with somewhat greater competition expected from increasing production of fruits abroad. The volume of United States exports of fruit declined less during the depression than most any other group of agricultural exports.

The move toward stabilization of currencies, which has been coupled with lowering of trade barriers in several countries, and the reduction of duties and other import restrictions secured under the trade-agreements program are factors which may, in the long run, be favorable to our fruit exports. The Trade Agreement Act of June 12, 1934, has already resulted in valuable concessions on fruit in each of the fourteen agreements signed to date. All the countries with whom trade agreements have been signed have given concessions on canned fruit and all but one on fresh and dried fruit. For the present season, however, the outlook for exports is not as promising as it was before devaluation of currencies began in September. Moreover, the amount of improvement in our fruit-export business that may occur during the next two or three years as a result of modified trade barriers and readjustment of foreign currencies cannot be forecast with any assurance at the present time.

ALMONDS

Almond production has declined each year since 1931. The acreage of bearing and nonbearing trees indicates that production over the next few years will not average higher than during the last three years. Some additional plantings in favorable producing areas are perhaps justified. Grower prices will most likely be considerably higher for the next five years than the average price received during the five-year period prior to 1936 owing to prospective increases in consumer purchasing power. Price increases will be limited by competition from other nuts produced domestically and from imports of almonds, cashews, and other varieties of lesser importance.

The domestic production of almonds, which is confined to California, for 1936 is estimated at 7,100 tons. Production for other recent years is 9,300 tons in 1935, 10,900 tons in 1934, and 12,380 tons average for the

period 1931 to 1935, inclusive. The 1936 crop is the smallest since 1929 when, as a result of severe frost damage, production was only 4,700 tons.

The decline in production during the past six years has resulted from neglect of orchards in high-cost producing areas and from unfavorable weather conditions rather than from actual decrease in bearing acreage. There was a gradual decline in the acreage of young trees for several years previous to 1934; even though the nonbearing acreage has increased considerably since then, it is still no more than sufficient to replace the normal loss of bearing trees which results from old age, disease, and abandonment. On the other hand, the downward trend in production will probably not continue to any marked degree. Higher prices in 1935 and again in 1936 will stimulate rehabilitation of neglected orchards and will result in better orchard management generally throughout the state. There have also been some new plantings during the past few years, and it is reasonable to expect that such action will be accentuated by prevailing farm prices. Although the plantings to date have not been large, for the most part they have been made in the better producing areas, and per-acre yields may be expected to increase. The state yields per acre for the past several years have averaged less than 350 pounds. The factors of yield per acre as they relate to per-unit costs of production and the varieties as they relate to selling prices should be considered in making new plantings.

Opening farm prices for the 1936 almond crop were much stronger than in 1935. The preliminary estimate of 1936 prices to growers for the IXL variety is 20.6 cents a pound as compared with 14.4 cents a pound in 1935 and 10.9 cents a pound in 1934. The actual increase in both grower and trade prices is greater than corresponding increases in the prices of walnuts and paper-shell pecans. The grower price on seedling pecans is now almost double the 1935 price owing to a very short crop.

During the entire period of almond production in California, imports of almonds have been an important factor in determining domestic prices. Up to and including 1930, shelled and unshelled imports of almonds (computed on the basis of unshelled) greatly exceeded the domestic production. In 1931, domestic production was 14,800 tons as compared to imports of 11,900 tons in equivalent unshelled. For the three years since 1931, imports were at a very low level, reaching a bottom in 1933 when only 4,245 tons equivalent unshelled was imported. The stimulation of higher domestic prices in 1935 caused imports to increase sharply. In that season 5,500 tons of shelled almonds and 1,365 tons of unshelled almonds, or a total in equivalent unshelled of approxi-

mately 18,000 tons were imported. With domestic production still smaller in 1936 than in 1935 and with prices this year above the 1935 level, the import demand for almonds is likely to be even greater than during the 1935-36 season. European production of shelled almonds is expected to be about the same in 1936 as in 1935. The total European production for 1936 is estimated at 64,800 tons. About 40 per cent of this is represented

TABLE 1
UNITED STATES CONSUMPTION OF TREE NUTS

Kind of nut	Per cent of total consumption of all tree nuts		
	Produced in the United States	Imported	Total
	<i>per cent</i>	<i>per cent</i>	<i>per cent</i>
Walnuts.....	26.5	2.3	28.8
Pecans.....	26.2	....	26.2
Almonds.....	4.2	7.4	11.6
Cashew nuts.....	....	11.3	11.3
Brazil nuts.....	....	9.8	9.8
Chestnuts.....	....	8.0	8.0
Filberts.....	0.6	2.3	2.9
Pistachios.....	....	1.2	1.2
Pignolias.....	....	0.2	0.2
All tree nuts.....	57.5	42.5	100.0

by the Spanish crop, and there is much uncertainty regarding the availability of a substantial part or any of this crop for export.

Competition during the 1936-37 season from other tree nuts in the United States will be less than during the 1935-36 season. The total pecan crop for 1936 is estimated at 34,760,000 pounds as compared to the very large crop in 1935 of 95,340,000 pounds. The decrease in the pecan crop is almost entirely in the seedling production which affords the most severe competition for almonds. The walnut crop in California and Oregon in 1936 is estimated at 43,400 tons as compared with 55,200 tons in 1935. During the next several years, it is likely that the pecan crop will average considerably above the estimated 1936 production and that the walnut crop will be equally as large as that estimated for 1936. Both these crops have increased in importance over the past several years while, with the exception of two years, the consumption of almonds has declined in relative importance from the season of 1922-23. Consumption of tree nuts in the United States for the period of October, 1935, to September, 1936, is given in table 1.

APPLES

With average growing conditions, apple production in the United States during the next few years will probably be somewhat larger than the average of the last five years. However, prices to growers for normal crops during the next three years are likely to average somewhat higher than for the past five years because of increased consumer buying power. From a longer-time viewpoint the general trend in bearing acreage and production of late apples in the United States will continue downward at a slow rate, unless tree replacements and new plantings are increased somewhat over those of the last several years. Early-apple production in the East will probably be maintained during the next decade but in California the trend will be slightly downward.

Apples will continue to have keen competition from plentiful supplies of other fruits, particularly of oranges and grapefruit. Even though worth-while concessions with a number of countries through trade agreements have been secured for fresh apples, trade barriers will continue to handicap increased apple exports. Moreover, increasing competition may be expected in overseas markets if foreign countries succeed in their efforts to further increase production and improve the quality of their apples.

The acreage of late apples has fallen off more rapidly in California in recent years than in the Northwest or the East and will probably continue to do so during the next decade. Approximately 6 per cent of the apple acreage in California was not yet in bearing in 1935 as compared with 17.5 per cent for the United States as a whole and 12.2 per cent for the eleven far-western states. Moreover, of the commercial bearing acreage in California, only about 12 per cent is less than eighteen years old as compared with about 28 per cent for the United States as a whole. Preliminary estimates of the California Coöperative Crop Reporting Service show approximately 46,000 acres of apples in the state in 1936 of which about 2,500 acres were not yet in bearing. About 160 acres of apples were planted in California during the winter of 1935-36.

The 1936 United States apple crop was the smallest in many years and prices to growers will, therefore, probably average higher than for any season in several years, except, possibly, in the Far West where the decline in 1936 production below 1935 was only about 10 per cent as compared with 50 per cent for the rest of the United States. Total California apple production in 1936 was about 8,946,000 bushels (November 1 estimate) or about a million bushels less than in 1935. The average

for the state during 1931-1935 was approximately 8,776,000 bushels, which constituted 6 per cent of national production, or about the proportion normally to be expected during the next few years.

About three-fourths of the total production of California apples ordinarily consists of late apples. In the chief late-apple-producing district in the state around Watsonville, Newtowns and Bellflowers are by far the most important varieties grown and produce exceptionally good yields at a low cost. Marketing costs are also held down by the general practice of shipping by truck in unlidded boxes. However, better organization of growers in this district would promote more efficient marketing methods and help them to improve their bargaining power. The light color of these apples and the fact, generally recognized, that they do not develop a high eating quality when produced here, place them at a distinct price disadvantage with the large quantities of bright-colored varieties shipped in from other states. Bright-colored varieties of apples of high quality can be grown in some mountain areas of the state, but the yields are usually too small to be profitable on a commercial scale.

One indication of the difficulty that California apple growers have had in marketing both early and late apples in recent years is the fact that from 35 to 40 per cent of the total state crop has been sold for drying at very low prices. A large majority of our dried-apple output is exported. Germany was formerly our chief export market for dried apples but lack of foreign exchange and stringent trade restrictions have seriously curtailed that market during the past two years. The recent devaluation of the currencies of a number of European countries will probably have an adverse influence on the export market as a whole during the present marketing season. Although lowering of foreign-trade barriers and readjustment of foreign-exchange rates may result in some improvement in export demand for dried apples over that of the present season, it may not attain a level much higher than that of 1935-36 during the next few years.

Early-apple production in California is a highly commercialized industry centered around Sebastopol. Production consists very largely of Gravensteins which have constituted nearly one-fourth of the total apple production of the state in recent years. Gravenstein production, fresh shipments, and dried output showed rapid upward trends from 1920 to 1930, but since then the trends of acreage and production have flattened out and it now appears that normal production in Sonoma and Napa counties will decline during the next few years. Practically no plantings of Gravensteins have been made in the state in recent years,

and growers are reported to be so discouraged by the poor incomes received that they have been grafting some Gravenstein trees or replanting with later varieties.

With large average Gravenstein crops since 1930 and a low level of demand, prices received by California growers have been very unsatisfactory, averaging less than 50 cents a box for the Fancy grade of fresh shipments and only about one-fourth as much for drying apples. In 1936 better consumer incomes, less competition from other fruits, and a smaller crop than in 1935 resulted in considerably better returns than in 1935 for both shipping and drying Gravensteins. Although normal crops of California Gravensteins and of eastern early apples will probably be larger than in 1936, larger consumer incomes may improve demand enough so that normal crops of fresh shipping Gravensteins during the next three years may sell at prices about the same as in 1936.

Competition with California Gravensteins from plentiful supplies of early eastern apples is likely to increase during the next decade. Many early eastern apples can be grown more cheaply than California Gravensteins and are produced in sections that are within easy trucking distance of the largest consuming markets of the East and Middle West. A survey of commercial apple orchards made by the United States Department of Agriculture in 1928 showed that approximately 40 per cent of the early varieties of apple trees in the ten states leading in early-apple production were less than nine years old. Only 16 per cent of the California Gravenstein trees were this young in 1928. Large yields of high-quality fruit produced at a low cost appear to be increasingly necessary to early-apple producers in California in order to compete with supplies produced in the East.

APRICOTS

With average growing conditions, California apricot production from the bearing acreage in sight will be about as large as the crops of 1935 and 1936. With prospects for a higher level of domestic demand during the next three years, normal supplies of apricots may return California growers prices about like those of 1935 provided foreign demand recovers from the slump it took this year as a result of the devaluation in the currency of certain European countries that are important export markets for our fruit. However, violent fluctuations in yields are likely to continue to be a major cause of great year-to-year changes in farm prices for apricots, and of unequal distribution of income among different producing districts and different growers.

The bearing acreage of apricots in California has changed but little during the last ten years. State yields averaged about 2.7 tons per acre in 1935 and 1936, or close to normal, and annual production about 220,000 tons. Whenever yields are close to normal, production will continue to be about the same during the next few years. The bearing acreage of apricots in California rose from about 46,000 acres in 1919 to a peak of about 82,700 acres in 1928. It had declined only to about 80,500 acres in

TABLE 2

CALIFORNIA HARVESTED PRODUCTION AND CANNED AND DRIED OUTPUT OF APRICOTS

	Harvested production	Canned	Dried, fresh weight	Dried, dry weight
	<i>tons</i>	<i>tons</i>	<i>tons</i>	<i>tons</i>
Averages:				
1928-1930.....	193,900	48,300	124,700	22,700
1931-1933.....	266,000	37,700	202,300	36,800
Annual:				
1933.....	268,000	43,900	206,000	37,400
1934.....	139,000	32,300	92,400	16,800
1935.....	216,000	57,500	142,000	25,800
1936.....	227,000*	47,000*	160,000*	29,100*

* Preliminary trade estimates subject to revision.

1936 at which time about 4,750 acres were also not yet in bearing, or about 6 per cent of the total acreage. In addition, about 1,200 acres were planted in the winter of 1935-36. The bearing capacity of the younger trees has increased enough since 1928 so that normal production has not been reduced.

With about a normal crop in 1935, farm prices averaged about \$45 a ton for the state as a whole. In 1936 prices were considerably less chiefly because of larger total supplies, weakness in cannery demand, and the uncertainty of the export market, particularly for dried apricots. In addition to the 1936 crop, there was an unshipped carryover of canned and dried apricots on June 1, 1936, of about the equivalent of 30,000 fresh tons of apricots. Available California supplies for the 1936-37 marketing season were, therefore, in the neighborhood of 250,000 tons.

Dried Apricots.—Because of the limited cannery demand and low prices paid for canning apricots in 1936, together with the plentiful supplies available, a large tonnage and a large percentage of the crop were dried (see table 2).

Total California shipments of dried apricots during the 1935-36 marketing season were about 5,500 tons greater than the small movement

of the preceding season, but about 2,000 tons less than the quantity dried in 1935. Practically all of the total increase in shipments went to export markets; exports to France alone accounted for approximately 2,400 tons of the increase. During the past two seasons France took nearly 40 per cent of our exports of dried apricots, or approximately 20 per cent of the total dried output of the state. The devaluation of the French franc has been the most important influence weakening the export de-

TABLE 3
CALIFORNIA CANNED APRICOT PACK, SUPPLY, SHIPMENTS, AND F.O.B. PRICE

	Pack	Available supply	Total shipments	Exports	Price per case
	<i>cases</i>	<i>cases</i>	<i>cases</i>	<i>cases</i>	<i>dollars</i>
Averages:					
1925-26 to					
1929-30.....	2,859,000	3,228,000	2,684,000	679,000	3.84
1930-31 to					
1934-35.....	1,991,000	2,539,000	2,183,000	432,000	2.81
Annual:					
1933-34.....	2,416,000	2,739,000	2,572,000	538,000	2.37
1934-35.....	1,774,000	1,941,000	1,714,000	237,000	3.47
1935-36.....	3,164,000	3,391,000	2,547,000	596,000	2.93
1936-37.....	2,600,000	3,444,000	.....	.....	....

mand for our dried apricots during the present marketing season. Although modification of foreign-trade barriers and readjustment in foreign currencies may result in some increase in export demand over that of the 1936-37 marketing season, it is uncertain whether demand will attain a level much higher than in 1935-36 during the next few years. Germany is not likely to regain her former importance as an export market for some time.

Growers in the Santa Clara Valley received from 11 to 14 cents a pound for Extra Choice dried Blenheims in 1936 or somewhat less than in 1935.

Canning Apricots.—Trade estimates indicate that the 1936 canned pack of California apricots was about 20 per cent less than the large 1935 pack but somewhat larger than the average of recent years. Unshipped stocks of canned apricots on June 1, 1936, were about 844,000 cases, the largest carryover in several years. Total state supplies of canned apricots available for shipment during the 1936-37 marketing season were, therefore, just about as large as in 1935-36. Shipments of canned apri-

cots during the 1935-36 season were about the same as the estimated 1936 pack and close to the maximum sold in any one season since 1929.

The big increase in consumption of canned apricots in the 1935-36 season was largely the result of a low selling price, but also of some increase in demand. On the whole it seems probable that total shipments (table 3) during the present season will be somewhat larger than last season because domestic consumer income is expected to be higher and the prices of canned apricots appear to be averaging lower than last year, while the prices of competing fruits are averaging slightly higher. The only important factor affecting the canned-apricot market that appears less favorable to consumption than last year is export demand.

Large exports accounted for slightly over 23 per cent of our canned-apricot shipments during 1935-36. The United Kingdom took 90 per cent of the total. Its foreign-exchange rates as well as the improvement in the buying power of its people favored our exports. However, the demand for and the consumption of our canned apricots in the United Kingdom will probably be less during the 1936-37 marketing season than last year because of a less favorable rate of foreign exchange, greater competition from Australia, which packed about 100,000 cases more apricots this year than last, and continued preferential tariffs for Empire countries. Although export demand for our canned apricots may rise above that of the present season during the next two or three years as a result of trade agreements and the readjustment of foreign exchange rates, it may not attain a level much higher than that of 1935-36.

Farm prices of canning apricots varied greatly in different districts of California in 1936 but, on the whole, they probably averaged only about \$30 a ton or between \$15 and \$20 less than in 1935. Cannery prices to the trade for shipments during the 1935-36 season averaged about \$1.47 a dozen for all grades and sizes or about 15 per cent lower than during the preceding year. Although quotations on the 1936 pack opened at about \$0.30 a dozen less than the 1935 opening prices, they had risen about \$0.20 by October to about the same level as declining prices had fallen by that time in 1935.

Fresh Consumption.—The small quantity of California apricots eaten as fresh fruit has averaged only about 10 per cent of the total crop in recent years. About two-thirds of the apricots sold for fresh consumption have been consumed in California itself and the proportion is likely to continue to be nearly as great. The necessity for handling this highly perishable fruit quickly, greatly limits interstate shipments and restricts

sales in the East chiefly to a few large auction markets. Even in 1931 and 1932, with shipments of about 1,000 cars a year, the largest interstate movement on record, only about 12,000 tons a year were sold in eastern markets, or less than 5 per cent of the total California tonnage harvested. Demand will have to improve greatly or transportation costs be drastically reduced before that large an interstate movement will return growers anywhere near a satisfactory price. Interstate shipments in 1936 of 532 cars were 34 per cent greater than in 1935 but demand was so much better that eastern markets returned f.o.b. prices of about \$1.12 a crate or about \$0.30 more than in 1935.

AVOCADOS

Lower prices to growers are likely to prevail for the 1936-37 crop of avocados than for the 1935-36 crop. Unless there is a considerable rise in the level of most all prices, average farm prices for avocados over the next several years may not be much higher than those received during the 1934-35 season.

Preliminary estimates of the Calavo Growers of California indicate a crop in this state for 1936-37 of around 19 or 20 million pounds, or about twice the size of last season's crop and approximately the same as in 1934-35. The crops in Florida and Cuba were reported to be in normal condition on October 1.

Under normal crop conditions the trend of California production for the next four or five years will be sharply upward. Some crops in the near future are likely to run considerably over 20 million pounds as more trees come into bearing and as the bearing trees approach an age of higher yields. However, a few crops, particularly that in 1937-38, may be smaller than this year's production because of the tendency of the avocado trees to produce alternately large and small quantities of fruit.

California and Florida avocado production and United States imports (all of which have come from Cuba during the last few seasons) are as follows:

	California production	Florida production	United States imports	Total supply
	<i>tons</i>	<i>tons</i>	<i>tons</i>	<i>tons</i>
Average:				
1930-31 to 1933-34.....	2,183	1,260	4,210	7,653
Annual:				
1934-35.....	9,298	2,000	2,811	14,109
1935-36.....	4,547	1,000	4,571	10,118

Barring unfavorable weather conditions, production in Florida may be expected to increase materially in the future as the bearing trees approach the age of higher yields and reported plantings of the past four years come into bearing.

Imports from Cuba come in free of duty during the months of June through September and considerable competition for domestic production during those months can be expected from this source.

In response to a few exceptionally high prices, California bearing acreage steadily increased from a mere 690 in 1927 to 10,470 in 1936. This large rate of increase will probably continue until the bearing acreage reaches around 14,000 within the next three or four years, since 26 per cent of the total, or 3,720 acres, has not reached bearing age. However, new plantings have declined during the last three years, so the annual increase in bearing acreage after 1940 will probably be retarded.

California farm prices declined from 13 cents a pound in 1930-31 to a little over 4 cents in 1934-35. This decrease resulted from a combination of increased production and lower consumer incomes. However, with last year's smaller production and larger consumer incomes, the price to growers in California rose to approximately 9 cents a pound, or about the levels of 1931 through 1934.

By vigorous advertising and marketing policies, the avocado industry has succeeded in widening the distribution and increasing the consumption of avocados during recent years; but it must face the necessity of marketing even larger quantities in the near future.

GRAPEFRUIT

The present acreage situation indicates that United States grapefruit production will follow a sharply rising trend for some years to come. Unless a substantially broader domestic market is developed, growers must expect to receive considerably lower average prices in the future than those of the post-War decade. The canning outlet cannot be expanded very greatly without competing with fresh-fruit markets. For some growers abandonment of acreage is the alternative to lower-cost production.

Preliminary estimates from the California Coöperative Crop Reporting Service indicate that, including 1936 plantings, there are 18,420 acres of grapefruit trees, of which one-fourth have not reached partial-bearing age. Most of California's bearing acreage is still young enough to increase production for some years to come. California's bearing acreage, however, is less than 9 per cent of the national total. For Florida,

Texas, and Arizona combined, about two-thirds of the trees now in production are less than fifteen years old. More than two-fifths are from six to ten years old, and not over one-fifth has passed the twenty-one-year mark. In view of these facts, the trend in production of grapefruit, as shown in figure 1, is likely to be sharply upward.

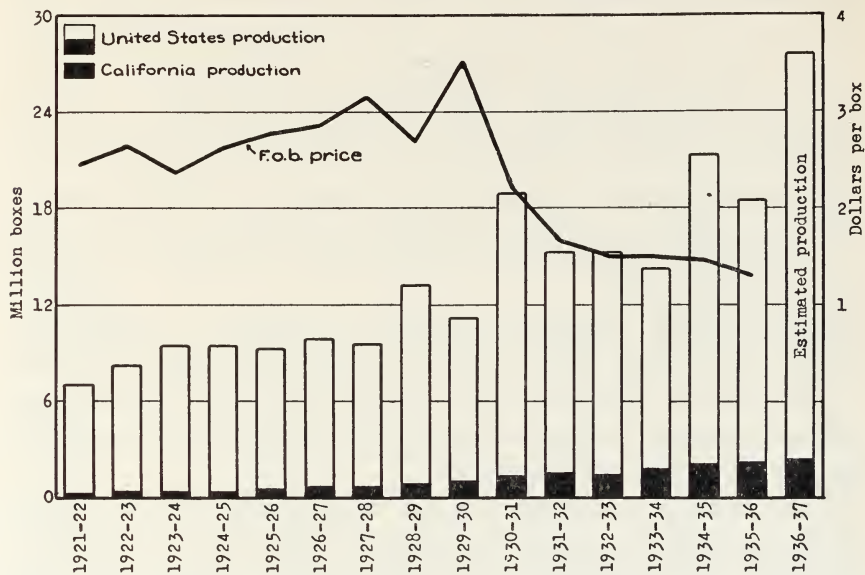


Fig. 1.—United States total production of grapefruit and f.o.b. prices of California winter grapefruit.

The largest portion of the expected increase in grapefruit production will come from plantings during the past decade in the lower Rio Grande Valley of Texas. Texas now has about as much grapefruit acreage as Florida, and only 5 per cent of its total bearing acreage is more than fifteen years old. Even in Florida only 57 per cent of the bearing acreage is in full production, and only 40 per cent of the bearing acreage of late varieties, which competes most strongly with the Texas crop, has reached full-bearing capacity. Arizona has less than half as many bearing acres as California but production of the former will increase sharply during the next five or ten years because 83 per cent of its bearing acreage is less than eleven years old, and only 8 per cent of it is more than fifteen years old.

Total United States production in 1935-36 was about 18,600,000 boxes. This was somewhat smaller than that of a year earlier, and although it was almost 4,000,000 boxes larger than the average crop from 1928-29

to 1932-33, it will probably be considered a small crop in the next five or ten years. The present estimate of 1936-37 production is about 27,600,000 boxes or almost half again as large as last year's crop.

Not all of the crop is shipped as fresh grapefruit. Nevertheless, total United States shipments in 1935-36 aggregated about 11,000,000 boxes as compared with 13,048,000 boxes in 1934-35, and an average of 11,331,000 boxes for the five years ending in 1932-33. Grapefruit markets are to a certain extent geographically related to the producing areas. Thus, because the Florida crop in 1935-36 was small (11,500,000 boxes as against 15,200,000 in 1934-35) the national average farm price per box in 1935-36 was increased to \$1.17 as compared with \$0.83 in the year previous. California and Arizona, however, produced 4,275,000 boxes in 1935-36 as compared with 3,407,000 boxes in 1934-35, and the average f.o.b. price for California fruit was \$1.28 (for 3 months) as compared with \$1.47 in 1934-35.

The canning of grapefruit has expanded rapidly in recent years. However, this outlet cannot afford complete relief from the surplus problem. At best it lengthens the marketing season, but canned grapefruit probably will compete seriously with the fresh fruit if canning becomes very much more extensive.

Export markets have taken annually about a million boxes of United States grapefruit in the past four years. No rising trend is apparent in this outlet. With average growing conditions the expected rise in production will probably result in a consistently low level of grapefruit prices unless a broader market can be developed or new uses of the fruit can be found. Unless production costs can be reduced, it is likely that some abandonment of acreage will occur.

GRAPES

If yields of grapes per acre are near normal during the next three years, grape production in the United States will be larger than in 1936, but higher consumer incomes and improved demand will probably be sufficient to result in farm prices about like those of 1936 for grapes used for fresh table purposes and for raisins, and somewhat lower for grapes used for commercial wine and brandy making. Such prices may encourage planting of the more popular varieties of grapes. However, it is uncertain whether demand and prices will still be favorable at the time such plantings would come into commercial bearing.

Foreign supplies of grapes and grape products will normally be so plentiful during the next few years that they will restrict the demand for

California exports, particularly of raisins, and will invade our domestic market unless we continue to restrict them therefrom. The foreign-exchange situation is less favorable to our exports during the present marketing season than last. However, world-wide readjustment of foreign currencies and lowering of foreign-trade barriers may result in some improvement in export markets for our grapes and grape products within a few years.

TABLE 4
GRAPE PRODUCTION IN CALIFORNIA AND OTHER STATES

Years	California				Other states, total
	Total	Raisin varieties	Table varieties	Wine varieties	
	<i>tons</i>	<i>tons</i>	<i>tons</i>	<i>tons</i>	<i>tons</i>
Averages:					
1926-1930.....	2,181,000	1,314,000	413,000	454,000	259,000
1931-1935.....	1,760,000	1,018,000	308,000	434,000	264,000
Annual:					
1931.....	1,320,000	775,000	229,000	316,000	301,000
1932.....	1,926,000	1,221,000	317,000	388,000	278,000
1933.....	1,660,000	970,000	270,000	420,000	250,000
1934.....	1,700,000	878,000	346,000	476,000	231,000
1935.....	2,194,000	1,248,000	375,000	571,000	262,000
1936.....	1,656,000	864,000	324,000	468,000	180,000

Improved demand and decreased production resulted in much better prices for grapes and raisins in 1936 than in 1935. United States production of all grapes for 1936 was about 1,836,000 tons (November 1), or about 9 per cent less than the 1931-1935 average, but considerably smaller than the large crop of 1935 (table 4). Because of extremely unfavorable weather conditions, the 1936 crop in states other than California was the smallest in a decade, and about one-third less than the 1931-1935 average production of those states. Total production in California was considerably less than the large crop of 1935 but somewhat less than the 1931-1935 average for the state. Production of table and wine varieties slightly above average was more than offset by the decrease in the crop of raisin-grape varieties. With average growing conditions and reasonable control of insect pests and diseases, the present bearing acreage in the United States may be expected to produce at least 2,000,000 tons of grapes, of which California will contribute nearly 90 per cent.

Table Grapes.—During the next few years, at normal yields per acre,

United States production of table grapes is likely to be about as large as in 1936. However, with prospects for some increase in demand and consumption, average prices to California growers for the more desirable varieties of table grapes are likely to be higher than in 1936. Such prices will probably divert a larger proportion of domestic production of table grapes from commercial wineries into fresh table use and may increase somewhat imports of late grapes from Almeria, Spain.

The bearing acreage of grapes used for table purposes in the United States is likely to decrease but slowly during the next three years. Preliminary estimates of the California Coöperative Crop Reporting Service indicate about 80,000 acres of table-grape varieties in California in 1936, of which about 4 per cent were not yet in bearing. In addition there is a considerable acreage of raisin-grape varieties, chiefly Thompson Seedless (Sultanina), the crop from which is ordinarily shipped as fresh table stock. There is no pronounced trend in eastern grape production, although the Census of Agriculture shows a reduction of about 6 per cent in the number of vines from 1930 to 1935. Slightly more than 4 per cent of these vines were not yet in bearing in 1935.

Improved demand and reduced supplies resulted in much higher prices for fresh table grapes in 1936. Because of the very small eastern grape crop, prices for those grapes improved even more than for California table grapes. Auction prices for California table stock of all varieties in 1936 (through November 7) averaged about the same as in 1934 and about 20 cents a lug more than in 1935.

Data in table 5 show that raisin-grape varieties have supplied between 25 and 30 per cent of the tonnage of California grapes used fresh for table purposes. Only a little over half of the harvested production of table varieties has been used as table stock, the remainder being nearly all used for making wine and brandy. The extent of the utilization of table varieties by wineries depends on the quantity demanded by consumers and the price for fresh table purposes in relation to the supply and price of wine grapes.

About 12 or 13 per cent of the eastern grape crop is ordinarily used by commercial concerns for making wine and 8 or 9 per cent for unfermented grape juice. This makes a total of from 20 to 22 per cent used for juice purposes.

Raisin Grapes.—During the next few years California raisin-grape crops will probably average larger than in 1936, but domestic demand may improve enough so that normal crops will return growers about the same price for dried raisins and fresh shipments as in 1936 and some-

what lower prices for raisin grapes used for commercial wine and brandy making. If commercial winery demand for fresh Muscats continues to be as good as in 1936, farm prices of Muscat raisins will probably be about the same as for Thompson Seedless raisins.

Early spring freezes reduced the 1936 crop of California raisin-grape varieties to about 864,000 tons (November 1 estimate), or about 70 per

TABLE 5
UTILIZATION OF CALIFORNIA TABLE-GRAPE VARIETIES AND
RAISIN GRAPES FOR TABLE PURPOSES

Years	Used fresh as table stock			Table varieties not used as table stock	Table varieties, total harvested
	Total	Raisin varieties	Table varieties		
	<i>tons</i>	<i>tons</i>	<i>tons</i>	<i>tons</i>	<i>tons</i>
Averages:					
1927-1929.....	370,000	78,000	292,000	77,000	369,000
1933-1935.....	239,000	69,000	170,000	159,000	329,000
Annual:					
1933.....	201,230	53,030	148,200	118,800	267,000
1934.....	263,400	76,600	186,800	159,200	346,000
1935.....	252,500	77,100	175,400	199,600	375,000

cent of the abnormally large crop of 1935. With normal weather conditions and reasonable control of insect pests and diseases, the present bearing acreage of raisin grapes in California is capable of producing somewhat more than 1,000,000 tons a year, or about the average output for 1932-1936. Of this total, Thompson Seedless grapes (Sultaninas) will probably constitute an average of about 70 per cent, Muscats about 25 per cent, and other varieties somewhat less than 5 per cent. Preliminary estimates of the California Coöperative Crop Reporting Service indicate a total of about 245,000 acres of raisin-grape varieties in California in 1936 of which about 12,500 acres, or approximately 5 per cent, were not yet in bearing.

Commercialization of wine and brandy production since Repeal has resulted in a big increase in the use of raisin grapes for that purpose (table 6). In 1935 the total quantity used for wine and brandy making, including homemade wine, actually exceeded the 1927-1929 average because of the optimism of vintners as to demand for sweet wine and particularly because of the large quantities of rain-damaged fruit that they were able to salvage at very low prices to growers. During 1933-1935

an average of approximately 15 per cent of the state crop of raisin grapes was used for commercial wine and brandy making, about 5 per cent for home wine making, approximately 7 per cent for fresh table purposes, and the remainder of about 73 per cent was dried. However, it is probable that demand and prices of dried raisins and of fresh table grapes during the next few years will be high enough so that a larger percentage will be used for these purposes and a smaller percentage used

TABLE 6
PRODUCTION AND UTILIZATION OF CALIFORNIA RAISIN-GRAPE VARIETIES

Years	Total harvested production	Dried (dry weight)	Dried (fresh weight)	Commercial crush	Other fresh juice stock	Fresh table stock and canned
	<i>tons</i>	<i>tons</i>	<i>tons</i>	<i>tons</i>	<i>tons</i>	<i>tons</i>
Averages:						
1927-1929	1,296,000	254,000	1,015,000	21,000	180,000	80,000
1933-1935	1,032,000	190,000	759,000	156,000	46,000	71,000
Annual:						
1933	970,000	195,000	780,000	80,000	56,000	54,000
1934	878,000	171,000	684,000	90,000	25,200	78,800
1935	1,248,000	203,000	812,000	300,000	56,500	79,500

for juice purposes. Probably no more of the 1936 raisin-grape crop was crushed commercially than of the 1934 crop and only about the same quantity was used in home wine making as in 1934. The demand for fresh raisin grapes for table purposes was so good that the tonnage consumed in this way seems to have been about as large as in 1935 even though the total 1936 raisin-grape crop was much smaller.

Preliminary trade estimates indicate that about 180,000 tons of raisins were dried in the state from the 1936 crop. The small tonnage dried this year and in 1933 and 1934 resulted from raisin-grape crops smaller than average, together with the demand for commercial crushing brought about by Repeal. In 1935, however, a much larger quantity of raisins would have been taken from the trays from that bumper crop if early rains had not caused so much loss. Since an average of about 200,000 tons of California raisins has been eaten during the past three years, the abnormally small dried output during these years made it necessary for the industry to draw on the large available carryover, which amounted to about 105,000 tons on September 1, 1933. The unshipped carryover in packers' hands on September 1, 1936, is estimated to have been at least 60,000 tons. Supplies in sight at that time for the 1936-37 marketing

season were, therefore, about 240,000 tons. Even though raisin shipments during the present season prove to be less than during 1935-36 because of poorer export demand, it appears that by September 1, 1937, we may have only a conservative merchandising carryover of raisins in the state.

An average of about 54,000 tons of California raisins was exported during 1933-1935, or approximately 27 per cent of total shipments through regular trade channels. Foreign demand for California raisins will probably not improve as much as domestic demand during the next three years. Foreign raisin output has been large during the past two years and is likely to be normally at about as high a level during the next few years. The foreign-exchange situation is less favorable to our exports this season than last. However, the adjustment of foreign currencies and modification of trade barriers now under way may result in some improvement in export demand for California raisins during the next few years.

California packers have paid \$65 to \$70 a ton for 1936 Thompson Seedless and Muscats most of the time since the first of August. These prices are about the same as California growers received for Thompson Seedless in 1934 and about \$10 a ton more than in 1935. This is the first year since 1928 that growers have received as high a price for Muscat as for Thompson Seedless raisins.

Wine Grapes.—If the demand for California raisins and fresh table grapes improves as much as is anticipated and the demand for wine and wine grapes is maintained at a level at least as high as that prevailing during the 1935-36 season, prices for normal supplies of grapes for wine and brandy making in California during the next three years are likely to be about as high as they were in 1934.

There has been an unexpectedly great increase in wine consumption in the United States since the repeal of the Eighteenth Amendment. Preliminary estimates indicate that consumption of all wine, homemade and commercial, was at least 0.68 gallons per capita in the 1935-36 marketing season, or slightly greater than the largest per-capita consumption in any year of the pre-Prohibition era. The low price of wine, as well as favorable demand, was an important factor in heavy wine consumption during 1935-36. National grape production was so large in 1935 and rain damage so extensive in California that an exceptionally great tonnage of grapes sought wineries and distilleries as an outlet, and vintners were able to buy grapes and sell wine at very low prices.

The relatively small tonnage of grapes available for wine and brandy making from the 1936 grape crop and the memory of the big quantity of

wine sold during the 1935-36 season led California vintners to pay much higher prices for grapes in 1936, with the expectation of increasing wine prices accordingly. Although wine prices appear to be strengthening, they have not risen as much as the price of the 1936 grapes that went into the new wine. Even though the quantity of wine produced in 1936 was not large, the supply available during the present marketing

TABLE 7

PRODUCTION AND UTILIZATION OF CALIFORNIA GRAPES FOR JUICE PURPOSES

Years	Total used for juice	Total commercial crushed	Total otherwise used for juice	Harvested production of wine varieties	Raisin varieties used for juice	Table varieties used for juice
	<i>tons</i>	<i>tons</i>	<i>tons</i>	<i>tons</i>	<i>tons</i>	<i>tons</i>
Averages:						
1927-1929.....	765,000	76,000	689,000	451,000	237,000	77,000
1933-1935.....	861,000	620,000	241,000	489,000	213,000	159,000
Annual:						
1933.....	698,800	444,000	254,800	420,000	160,000	118,800
1934.....	755,200	530,000	225,200	476,000	120,000	159,200
1935.....	1,130,600	887,000	243,600	571,000	360,000	199,600

season appears to have been about the same as was available during the 1935-36 season. Reduced production was offset by the very large stocks of aging wine and brandy still on hand.

California production of wine-grape varieties in 1936 was about 468,000 tons (November 1 estimate) or much less than the exceptionally large 1935 crop, but over 8 per cent larger than the 1931-1935 average. Potential normal production from the present California bearing acreage is about the same as the 1936 crop. The California Coöperative Crop Reporting Service estimates a total of about 186,000 acres in the state, of which about 4 per cent were not yet in bearing in 1936.

During the past three years (1933-1935) about two-thirds of the harvested production of California wine-grape varieties (table 7) have been crushed by commercial wineries and distilleries in California. The other third has been used largely for making homemade wine, mostly in eastern cities. Although shipments of wine-grape varieties to eastern markets in 1936 were about 20 per cent less than in 1935, the smaller 1936 crop left a smaller tonnage for California commercial vintners to use than in 1935.

LEMONS

Within the next several years, with normal growing conditions and summer temperatures, increasing production of lemons will place such pressure on the domestic lemon market that prices will probably decline, unless new types of outlets or foreign markets are developed.

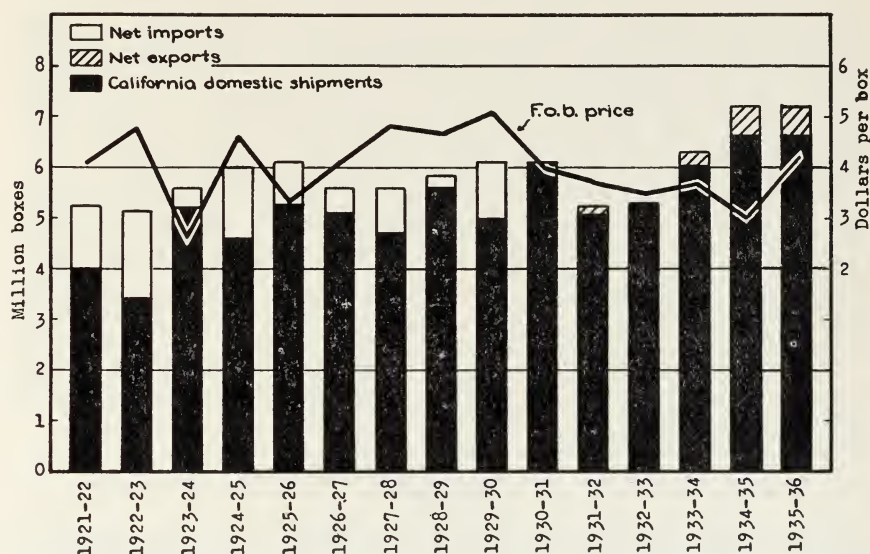


Fig. 2.—Domestic shipments of California lemons, net imports and exports of lemons, and f.o.b. prices of California lemons. The 1935-36 price is an average for November through January.

The trend in lemon acreage indicates a marked increase in production in the next five years. At present 18,300 acres is nonbearing, or about 30 per cent of the total lemon acreage, including preliminary estimates of 1936 plantings. While this nonbearing acreage is more than six times that of 1929, a preliminary estimate of bearing acreage in 1936 is only slightly larger than in 1929.

Lemon shipments from California have been higher in the past two years than ever before, as may be seen from figure 2.

Lemon production in 1935-36 was low. High temperatures prevailed in principal consuming markets. Largely because of these facts virtually all of the crop was sold in fresh-fruit channels at prices which compared favorably with an average of \$3.98 from 1929-30 to 1933-34. Disposal of lemons in nonlemon forms in 1934-35 amounted to almost half of the quantity shipped as lemons. The 1936-37 crop condition (November 1)

was 77 per cent as against 68 per cent a year ago and 80 per cent on November 1, 1934. Hence, production in the coming season may be expected to be large again.

The probability is that summer temperatures will be normal in the future instead of being consistently above normal as they have been in the past seven years. Experience during the last fifteen years indicates that a change of 1° Fahrenheit in average summer temperatures is associated with a change of about 60 cents a box in the f.o.b. price. To offset the depressing influence of lower temperatures on lemon prices, there is the fact that consumer income, and hence buying power, is now much higher than it has been since 1931. Further improvement in this direction, if it occurs, will bring additional support to lemon prices.

It must be remembered, however, that the demand for lemons is such that with other influences on price eliminated, a given percentage increase in the supply marketed as lemons in this country brings a much greater percentage decrease in price and industry gross income. Hence, it is important to stimulate new types of demand for lemons here and to expand the export markets. In the latter case, the outlook is for continued intensification of nationalist trade restrictions which limit United States export markets.

OLIVES

Under normal weather conditions and ordinary care of orchards, the trend of olive production will probably be slightly downward during the next few years. Prices to growers for canning olives, however, will probably continue low unless the demand for canned ripe olives is increased. There appears to be a good opportunity for increasing the demand outside of California, since the per-capita consumption of canned ripe olives in California is about ten times that for the rest of the United States.

Prices to growers for both canning and oil olives may be expected to average higher for the 1936 crop than for that of last year, because of the small carryover of canned olives and the average crop of about 18,000 tons as compared with the extremely large production of last year. Official estimates are not yet available on the effect of the Spanish Civil War on the supply of Spanish olives and olive oil available for export to the United States during the coming season; if many of Spain's olives are left unharvested, the current outlook for California olives may be further improved.

California bearing olive acreage has gradually decreased from 29,000

in 1928 to 26,000 in 1936. It will probably continue to decline for several years because the 1936 nonbearing acreage of 670 is not sufficient to maintain the present bearing acreage. Reduction in acreage has consisted largely of Missions and Manzanillos. However, more than enough olives can be produced from this decreased acreage to supply the demand for canning purposes; unless growers can make a profit by producing part of their olives for olive oil, further plantings are not justified.

The pack of canned ripe olives for the 1935-36 packing season was 568,000 cases; this combined with a larger-than-average carryover of 193,000 cases from the 1934-35 season gave 761,000 cases available for shipment, as compared with an average of 675,000 cases for the past five years. Sales for the 1935-36 season through October were 629,000 cases, which leaves 132,000 cases of old stock on hand November 1, 1936. Hence the carryover into the 1936-37 season on December 1 will most likely be less than 100,000 cases, one of the smallest on record; the carryover has averaged 179,000 cases for the last nine years. Sales for the 1935-36 season were about 25 per cent above those for 1934-35, but the average f.o.b. price for canned olives has been estimated by trade sources as around 25 per cent below that of 1934-35.

The decrease in imports of olive oil from Italy in the past season has been largely counterbalanced by increased imports from Spain. However, with the Spanish Civil War occurring during the present olive harvesting season, the supply of Spanish olive oil available for 1936-37 exports is somewhat uncertain. During the past five years Italy has furnished 57 per cent and Spain 37 per cent of United States olive-oil imports.

The Department of State announced negotiations for trade agreements with Italy and Spain in January, 1935, and September, 1934, respectively, but neither has been consummated. The Italian-Ethiopian War interfered with the negotiations with the former country, while the Spanish Civil War and exchange difficulties prevented the final approval of an agreement with Spain.

Preliminary estimates indicate a 1935-36 California olive-oil production of around 740,000 gallons—almost double the largest previous production on record. As California olive oil has averaged only about 2 per cent of the total olive oil consumed in the United States, its price varies in the same direction as the price of imported olive oil. The wholesale price of olive oil in New York averaged \$1.60 a gallon for the first seven months of this year, and then increased to \$1.90 in August, as compared with an average of \$1.56 for the preceding five years. The

farm price for oil olives has averaged between \$30 and \$35 a ton for most years, without any apparent relation to the farm price for canning olives.

Figure 3 depicts the following six important factors during the past eleven years: (1) gross farm income for all olives, (2) farm price for

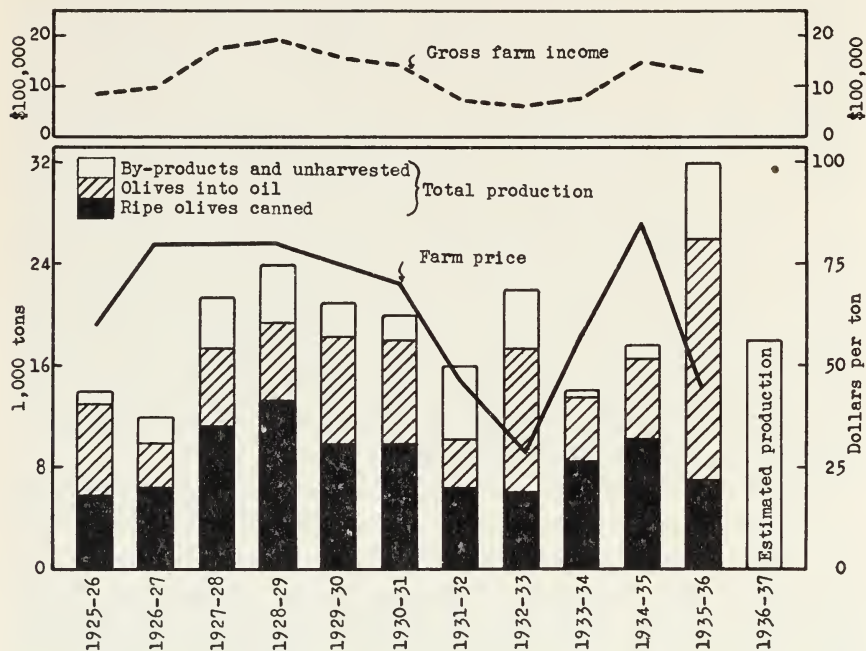


Fig. 3.—California olives: production, utilization, farm price, and farm income.

all olives, (3) the total production of olives in California, (4) the amount of olives canned, (5) the amount of olives pressed into oil, (6) the amount used in by-products and unharvested.

ORANGES

A rising trend in production of oranges may be anticipated for a number of years in California, the United States, and the world. United States producers must look mainly to the domestic market to dispose of the expected increase in production. Although enlargement of that market may be expected with increasing consumer purchasing power and wider distribution of fruit, average orange prices are unlikely to equal those in the post-War decade.

Winter Oranges.—The bearing acreage planted to Navel and other early varieties of oranges in the United States is slightly larger than

that planted to Valencia and other late varieties as shown in table 8. However, the proportion of young trees to total trees is much smaller for winter than for summer oranges so that the tendency over the next ten years will be for summer-orange production to approach or surpass in volume that of winter oranges. California now has about 97,900 acres

TABLE 8
PERCENTAGE IN VARIOUS AGE GROUPS OF BEARING ORANGE ACREAGE BY
VARIETIES AND STATES

	Bearing acres	Per cent in age groups			
		6-10	11-15	16-20	21 and over
Navel and other early varieties					
California.....	97,900	5.6	7.6	7.7	79.1
Florida.....	106,500	24.2	23.6	16.7	35.5
Arizona.....	1,385	43.2	13.2	13.9	29.7
Texas*.....	17,830	60.7	32.3	7.0	
Total.....	223,615	15.5	15.9	12.4	56.2
Valencia and other late varieties					
California.....	128,200	24.8	15.8	16.4	43.0
Florida.....	86,700	28.7	32.7	23.1	15.5
Arizona.....	956	90.6	2.3	2.8	4.3
Total.....	215,856	26.7	22.5	19.0	31.8

* Data for Texas late varieties are included with Navel and other early varieties.

of bearing winter-orange trees, while Florida has about 106,500. Only 13 per cent of this California bearing acreage is not yet in full production, but almost half that of Florida and 93 per cent of the Texas acreage may be so designated.

According to preliminary California Coöperative Crop Reporting Service estimates, California nonbearing acreage, including 1936 plantings, is only 6,170 acres. Hence no upward trend in California winter-orange production is apparent, while a strong upward trend is expected in Florida. The November 1 estimate of California winter-orange production in 1936-37 is 14,976,000 boxes, which thus shows a small increase over the 14,421,000-box crop of 1935-36. For Florida, the corresponding crop report for 1936-37 indicates 21,000,000 boxes, which is

3,000,000 boxes larger than the 1935-36 crop and 6,000,000 boxes larger than the five-year average production ending in 1932-33.

Shipments of winter oranges for November, 1935, to April, 1936, were about 28,000,000 boxes for the United States, or about 10 per cent less than in 1934-35, although they exceeded by more than 2,000,000 boxes the average in the preceding five years. Exports, however, in 1935-36 were about 2,000,000 boxes, or about 500,000 boxes larger than in 1934-35 or the average for the preceding five years. Despite the increase in exports, domestic markets took approximately 1,500,000 boxes more in 1935-36 than on the average from 1929-30 to 1933-34. The average f.o.b. price for California winter (packed) oranges last year was \$2.18 (3 months) as compared with \$1.91 the year before, and \$2.39 for the five years ending in 1933-34.

Regulation of the volume and flow of California shipments in the past several years has resulted in more orderly marketing and somewhat higher prices than otherwise would have been realized. If similar measures are maintained in effect in Florida, this will redound to the benefit of growers in both states. Increased consumer purchasing power, such as is anticipated in 1936-37, materially improves winter-orange prices. With the existing acreage situation, however, a surplus of winter oranges in the United States will probably face the industry for some years to come. To some extent this problem may be met by successful efforts to widen the domestic orange market. In the export markets, reciprocal trade agreements may make some inroads into nationalist trade restrictions and thus broaden this orange outlet. The Spanish rebellion may decrease competition for United States oranges in world markets in 1936-37, while the relatively small apple crop will tend to support domestic orange markets. The long-term world outlook for oranges marketed between November and April, however, indicates a rising production trend which makes export-market prospects rather pessimistic for orange growers.

Summer Oranges.—Nonbearing acreage for Valencia and other late varieties of oranges in the United States is larger than for winter oranges although, as table 8 shows, the total bearing acreage is less. Of the bearing acreage of Valencia and late varieties of oranges, however, 41 per cent in California, 61 per cent in Florida, and 93 per cent in Arizona are between six and fifteen years old. Oranges of these varieties from Florida, Texas, and Arizona are not marketed as continuously during the summer months as are those from California. Nevertheless, an increasing tendency to spread such shipments from the former states

over into the summer months may be expected. For California alone, preliminary estimates from the California Coöperative Crop Reporting Service show that, including 1936 plantings, there are now 144,830 acres of Valencia trees of all ages as compared with 104,070 acres of Navel and miscellaneous varieties. Valencia acreage less than six years old amounts to 16,630 acres, or 13 per cent of the present bearing acreage.

It is apparent, therefore, that a strongly rising trend of summer-orange production is in prospect for some years to come. The California Coöperative Crop Reporting Service reported on November 1 a 1937 Valencia crop condition of 77 per cent as compared with 65 per cent in 1936 and 79 per cent in 1935. The 1935 crop, it will be remembered, was 26,400,000 boxes. Commercial shipments from summer-orange-producing states in 1936 amounted to 19,315,000 boxes, as compared with 21,152,000 boxes in 1935, and an average of 16,271,000 boxes for the preceding five years. Exports, however, have increased from a 1930-1934 average of 1,989,000 boxes to 3,838,000 boxes in 1935 and 2,041,000 boxes (5 months) in 1936. Consequently, the domestic utilization of summer oranges in 1936 was about 17,000,000 boxes as compared with 17,316,000 boxes in 1935 and 14,387,000 boxes, the average from 1930 to 1934.

With increased summer-orange supplies anticipated in the coming years, efforts will have to be intensified to broaden the domestic outlets. In foreign markets, United States summer oranges will encounter increased competition from foreign oranges, as well as a continuation of nationalist trade barriers of various types. Offsetting this, some improvement may be hoped for from reciprocal trade agreements. In the domestic market, continued regulation of the flow and volume of summer-orange shipments will tend to improve grower returns by eliminating market gluts and scarcities, and by keeping off the orange market those portions of large crops which, if they were marketed, would reduce total returns to growers. Improved consumer buying power will support orange prices, but in years when this factor is at a reduced level, a broadened consumer preference for oranges will be a strengthening influence.

PEACHES

Clingstones.—With a level of California clingstone-peach production during the next few years somewhere within the range of the past two years and with some improvement anticipated in the demand for canned peaches, farm prices of clingstone peaches are likely to be high enough to stimulate the planting of an acreage that may prove excessive in later

years. Improved prices during the past three years have already stimulated the planting of about all the clingstone nursery stock available during the past two years. The main problem of the clingstone-peach industry is that of replacing a portion of the abnormally large acreage that is passing out of profitable production, without overdoing it.

The gradual downward trend in bearing acreage of clingstone peaches now taking place is largely the result of very few plantings and extensive pulling of trees during the depression when returns to growers were extremely low. Preliminary data from the California Coöperative Crop Reporting Service show that about 4,200 acres of clingstones were planted in California in 1936 in addition to 5,100 acres planted during 1932-1935; however, a net decrease in the total clingstone acreage in the state of about 10,700 acres occurred between 1932 and 1936. It appears, therefore, that approximately 15,800 acres have been removed since 1932. If most of these removals were the oldest trees, then computations based upon the age of distribution of trees in 1932 indicate that very few trees over sixteen years of age were still in bearing in 1936 and that probably about 60 per cent were eleven to fifteen years of age; nearly 25 per cent, four to ten years of age; and about 16 per cent less than four years of age.

Since trees usually begin to decline in productivity by the time they are twelve years old, it appears that with a majority of the clingstone acreage in the state now over eleven years old, normal production within a few years may be smaller than at present unless improved cultural practices are generally adopted and are unusually successful in maintaining the yields of older trees. Good farm prices will tend not only to stimulate yields but also to greatly increase plantings with little regard to what returns are likely to be when those plantings have come into full bearing.

Canning clingstones brought California growers about \$27 a ton in 1934 and 1935. In 1936, with the aid of a marketing agreement, the ruling price was \$30 and only No. 1 fruit was canned. The clingstone production of the state was about 332,000 tons in 1936 as compared with 288,000 tons in 1935 and 324,000 in 1934. About 263,000 tons were used by canners in 1936. A large part of the remainder of the crop was dried and a few were shipped to fresh markets. Since freestone peaches are generally preferred as a fresh fruit and as a dried product, fewer clingstones will probably be used for these purposes when No. 2's are again generally in demand by canners.

Trade estimates indicate that about 10,236,000 cases of clingstones

were canned in California in 1936. Unshipped stocks, in canners' hands on June 1, 1936, were slightly over 2,000,000 cases, so that available supplies for the 1936-37 marketing season of about 12,278,000 cases were less than the year before, but considerably more than a million cases greater than total shipments during 1935-36. Both domestic consumption and exports during 1935-36 were considerably above the small

TABLE 9
PACK, SUPPLY, SHIPMENTS, AND CANNERS' F.O.B. SELLING PRICE OF
CALIFORNIA CANNED PEACHES

Years, June-May	Pack	Available supply	Total shipments	Exports	Canners' price per case
	<i>cases*</i>	<i>cases*</i>	<i>cases*</i>	<i>cases*</i>	<i>dollars</i>
Averages:					
1921-22 to 1925-26	7,572,000	8,717,000	7,641,000	1,321,000	4.01
1926-27 to 1929-30	11,892,000	14,178,000	11,616,000	1,903,000	3.53
1930-31 to 1934-35	9,412,000	12,257,000	9,376,000	1,549,000	2.48
Annual:					
1933-34.....	10,309,000	11,670,000	9,280,000	1,799,000	2.31
1934-35.....	8,598,000	10,988,000	9,132,000	1,126,000	2.69
1935-36.....	11,216,000	13,072,000	11,030,000	2,307,000	2.54
1936-37.....	10,236,000†	12,278,000†	.....	.....	....

* Equivalent cases of 24 No. 2½ cans. Data include both freestones and clingstones.

† Data on the 1936-37 pack include clingstones only.

movement of 1934-35. Domestic movement was stimulated by the efforts of the Canning Peach Stabilization Committee and retail stores in advertising and pushing sales. Canned-peach data given in table 9.

On the whole, however, demand for canned peaches during the 1935-36 season was only about the same as in 1934-35 since selling prices of canners averaged 15 cents a case lower in 1935-36 than in 1934-35. Improvement in the demand for canned peaches in 1935-36 over 1934-35 was much greater in the export market than at home. Exports during the 1935-36 season were the largest on record, constituting over 20 per cent of total shipments. The United Kingdom as usual took about 90 per cent of the exports. Because of the decline in the value of the English pound since the latter part of September, the export market for our canned peaches will probably be poorer this season than last. However, it will probably tend to recover during the next few years.

Freestones.—Since normal production of peaches in California and the rest of the United States will probably not increase during the next

few years and demand is expected to improve, farm prices of California freestone peaches will probably average somewhat higher during the next three years than in 1936. However, the demand for fresh shipping peaches will probably improve more than for dried peaches.

The California Coöperative Crop Reporting Service estimates that the bearing acreage of California freestone peaches in 1936 was about 48,500, or about 10,000 less than in 1928. Normal production from the present acreage would be about the same as the 1936 state crop of 177,000 tons. About 6,000 acres were not yet in bearing in 1936, or approximately 11 per cent of the total state acreage. In addition nearly 1,900 acres of freestones were planted in the winter of 1935-36.

The trend of California freestone-peach production during the past fifteen years has been steadily downward, and hence its difficulties since 1930 have been due largely to depressed demand at home and abroad. However, the big increase in California production of clingstone peaches reduced the pack of canned freestones in recent years and resulted in some fresh shipments of surplus canning clingstones. An average of less than 3 per cent of the freestone crop of the state was canned during 1931-1935.

Consumption of fresh freestone peaches has increased markedly in California during the last fifteen years, and, in addition, a considerable tonnage of clingstone peaches has been consumed fresh in recent years. About 34 per cent of the freestone production of the state was marketed fresh during 1931-1935. An annual average of about 42,000 tons of freestone peaches was eaten fresh in the state during 1931-1935, which thus utilized about 70 per cent of the state tonnage of freestones marketed fresh, while interstate shipments of freestones averaged about 1,440 cars and of clingstones, about 610 cars. Chicago delivered auction prices of California Elbertas averaged \$0.88 in both 1934 and 1936.

The chief direct competition that California fresh peaches encounter in middle-western and eastern markets is from peach shipments from the southern states, which will probably average no greater during the next few years than in recent years. Fresh-peach shipments from California tend to be small in years when those from the southern states are large, and vice versa. However, decreased demand and low prices for fresh peaches, as well as some shipments of clingstones from the canning surplus, modified this relation during the depression.

Although freestone-peach production in California has decreased during the past fifteen years and the demand for dried peaches has declined,

the state output of dried freestones has decreased but little. Moreover, the total dried-peach pack has been maintained by that part of the surplus of clingstones that has been dried since 1930. About 63 per cent of the freestone-peach crop of the state was dried during 1931-1935. Dried-freestone production in 1936 is estimated by the trade at about 17,000 tons, or only about 53 per cent of estimated total state production of freestones, which indicates a much larger utilization in other ways than usual in recent years. Trade estimates indicate the largest dried clingstone output since commercial drying of this fruit began in 1931. Nearly 7,000 tons of clingstones were probably dried in 1936 as compared with an annual average of 2,400 tons during 1931-1935.

The trend of California dried-peach production and exports including clingstones, is shown below together with average packers' f.o.b. price quotations to the trade on Choice Muirs.

	Total production	Exports	Packers' quotations, per pound
	<i>tons</i>	<i>tons</i>	<i>cents</i>
Averages:			
1921-1925.....	23,100	3,300	10.9
1926-1930.....	23,000	3,800	10.3
1931-1935.....	22,500	3,600	7.4
Annual:			
1933.....	23,400	3,784	7.7
1934.....	25,700	3,175	8.7
1935.....	19,500	3,049	9.0

Packers paid growers less for dried-freestone peaches in 1936 than in 1935, and prices to the trade during the first four months of the 1936-37 marketing season were slightly lower than during the corresponding period of the previous season. Domestic demand for dried peaches may be better this season than last, but foreign demand and exports will probably be less than during 1935-36 because of the recent devaluation of the currencies of a number of European countries, particularly that of France which took about 38 per cent of the 1935-36 exports. Although modification of foreign-trade barriers and readjustment of foreign currencies may result in some increase in export demand during the next few years over that in the 1936-37 marketing season, the amount of such improvement cannot be forecast with assurance.

PEARS

The probability of a continued upward trend for several years in Pacific Coast production of Bartletts and of fall and winter varieties of pears indicates that growers' returns may be low whenever yields per acre are near average, even though substantial improvement in demand takes place during the next few years.

Removal of trees of unpopular market varieties and of those producing low yields or an inferior-quality fruit, such as those afflicted with black end, would undoubtedly benefit individual pear growers as well as the industry as a whole. However, the California industry will probably have to endure several consecutive years of prices of \$20 a ton or less before any substantial removal of acreage will take place on the Pacific Coast.

Of Pacific Coast pears, about 40 per cent of the canned pack is usually exported, over 80 per cent of the dried output, and a considerable proportion of fresh shipments. Improvement in the buying power of foreign consumers, therefore, helped the industry during the past year. Unfortunately, however, the foreign-exchange situation since September has been unfavorable to exports, particularly to France, and may continue to restrict our exports for several months, at least. Although lowering of foreign-trade barriers and readjustment of foreign-exchange rates may result in some improvement in export demand over that of the present season, it may not attain a level much higher than that of 1935-36 during the next few years. Somewhat favorable to our pear industry is the fact that very little increase in pear production in foreign countries is anticipated during the next decade.

Pacific Coast pear production and bearing acreage have more than doubled since the World War, whereas the output of other states has decreased at least 25 per cent. The Pacific Coast pear crop has usually accounted for about 70 per cent of the national output in recent years, but in 1936 it contributed nearly 80 per cent. Eastern production was unusually small whereas the Pacific Coast crop was nearly the largest on record. Oregon and Washington pear production has risen more rapidly than any other district during the past fifteen years and now normally accounts for about 45 per cent of the Pacific Coast crop. About half the crop in those two states and 80 per cent of the California crop now consists of Bartletts.

The following data indicate the trend of total pear production (harvested and unharvested) on the Pacific Coast as compared with other states:

	Pacific Coast	California	Oregon and Washington	Other states
	<i>tons</i>	<i>tons</i>	<i>tons</i>	<i>tons</i>
Averages:				
1922-1925.....	238,000	149,000	89,000	215,000
1930-1934.....	397,000	237,000	160,000	159,000
Annual:				
1934.....	391,000	233,000	158,000	173,000
1935.....	365,000	163,000	202,000	164,000
1936.....	442,000	232,000	210,000	127,000

California now usually produces over 40 per cent of the national pear output. Not more than 10 per cent of its crop, however, usually comes into direct competition with eastern pears. The remainder is canned or dried or shipped fresh before eastern pears are harvested. Pear production has been so large as compared with demand that in eight of the past ten years part of the California crop has been unharvested. Over 30,000 tons a year, or an average of nearly 15 per cent of the state crops of 1930-1934 was unharvested. Normal crops in the state during the next few years will probably be about as large as the 1936 crop.

Revised preliminary estimates of the California Coöperative Crop Reporting Service show the following pear acreages in the state:

	Bearing in 1935	Bearing in 1936	Nonbearing in 1936
	<i>acres</i>	<i>acres</i>	<i>acres</i>
All varieties.....	61,000	60,000	4,400
Bartletts.....	52,600	51,300	3,360
Other varieties.....	8,400	8,700	1,040

Bartletts.—The Pacific Coast produces a large majority of the total United States Bartlett crop—all the dried Bartletts, nearly all the canned Bartletts, and most of the fresh shipping Bartletts. Bartlett production averaged roughly 275,000 tons on the Pacific Coast during the past seven years, or about 80 per cent of its total pear output. Normally Bartlett crops at least as large may be expected, of which California may be expected to contribute about two-thirds. Pacific Coast production in

1936 was close to 300,000 tons. Bartletts constitute about 75 per cent of the total pear acreage on the Pacific Coast, about 85 per cent of the California acreage, and approximately 55 per cent of the Pacific Northwest acreage. With the major exception of the Hardy (Beurre Hardy), varieties other than Bartletts are harvested too late to compete directly with most California Bartletts.

Trade estimates indicate that Oregon and Washington canned about 75 per cent of their harvested Bartlett tonnage during the past seven years and disposed of the rest on the fresh market. In California only about 30 per cent of the harvested Bartlett crop has been canned and approximately 17 per cent dried. Of the remainder an average of at least 40 per cent has been shipped fresh out of California, and this percentage will probably increase in order to minimize competition with the large canning Bartlett tonnage in prospect in the Pacific Northwest and also to take advantage of expected improvement in the demand for California fresh Bartletts in eastern markets during the next few years.

About 4,300 cars or 65,000 tons of Bartletts were shipped from California in 1936. About the same quantity was shipped in 1934 and about 15,000 tons less in 1935 and 1933. Demand for California Bartletts in eastern markets in 1936 was slightly below that of both 1935 and 1934. The delivered auction price in eastern markets averaged about \$2.32 a box in 1936, or nearly as high as in 1935 and about \$0.20 lower than during the 1934 marketing season when about the same Bartlett tonnage was shipped fresh. Considering the short deciduous-fruit crop in the East and the higher level of city-consumer purchasing power in the United States, it is difficult to understand why the demand for our fresh Bartletts in 1936 was so low.

The upward trend in Bartlett production on the Pacific Coast has resulted in a marked increase in the canned pack in recent years particularly in the Pacific Northwest. During 1930-1934, Oregon and Washington canned an average of 2,219,000 cases, or about 53 per cent of the Pacific Coast pack as compared with 838,000 cases, or only 35 per cent during 1922-1925. Cannery estimate that the equivalent of between 5,000,000 and 5,500,000 cases of Bartletts were canned on the Pacific Coast in 1936, roughly half of which was packed in California. However, much of the California pack was used in canned-fruit salad and fruit cocktail.

Pacific Coast canned Bartlett supply and movement, in equivalent cases of 24 No. 21½ cans, and cannery average f.o.b. prices for all grades and sizes for marketing seasons beginning June 1, have been as follows:

	Supply	Total shipments	Exported	Price per case
	<i>cases</i>	<i>cases</i>	<i>cases</i>	<i>dollars</i>
Averages:				
1922-23 to 1925-26.....	2,606,000	2,328,000	1,208,000	5.18
1930-31 to 1934-35.....	4,846,000	4,094,000	1,573,000	2.90
Annual:				
1934-35.....	5,809,000	4,518,000	1,503,000	3.05
1935-36.....	5,561,000	4,604,000	1,894,000	2.92

With approximately 960,000 cases of the 1935 pack still unshipped on June 1, 1936, Pacific Coast supplies of canned pears available for the 1936-37 marketing season were probably even greater than for 1934-35. Pacific Coast shipments have varied but little during the past three years, averaging about 4,552,000 cases a year. Exports accounted for about 40 per cent of total 1935 shipments, amounting to over 300,000 cases more than average exports of the preceding three years. As usual, the United Kingdom took considerably more than 90 per cent of the exports. Even though export demand was better, domestic demand for canned Bartletts was so much lower in 1935 than in 1934 that total demand was slightly lower in 1935 than in 1934. Slightly smaller total shipments were sold by canners at \$2.92 a case during the 1935 season than were sold at \$3.05 in 1934. So far this season canned Bartletts have been selling at a few cents less than a year ago, while other canned fruits as a group have sold at slightly higher prices.

California is the only state that dries pears commercially in significant quantities, and the Bartlett is the only variety dried. In recent years an average of somewhat over 5,000 dried tons has been produced from roughly 30,000 tons of fresh pears, or about 12 per cent of the total production of all varieties of pears in the state. About 80 per cent of the output has been exported during the last four years and about 25 per cent of these exports have been in dried-fruit salad. Germany was formerly our most important export outlet for dried pears, but its currency restrictions and other trade regulations have greatly curtailed its imports during the past two years. Fortunately the increase in French and Swedish imports has counterbalanced much of the great decrease in German imports. However, the foreign-exchange situation in France will probably curtail its imports from our 1936 crop.

Although the farm price of California Bartletts was lower in 1936 than in 1935, growers' returns as a whole were larger because the crop

was about one-third greater. California shipping Bartletts brought growers slightly less per ton in 1936 than in 1935 while California canning Bartletts averaged between \$25 and \$30 a ton for No. 1's in 1936, or about \$5 or \$6 a ton less than in 1935. The large majority of Oregon and Washington canning Bartletts brought between \$20 and \$25 a ton for No. 1's except in the Medford district where they are reported to have brought about \$5 a ton more.

Prices of California shipping and canning Bartletts have been as follows:

	Auction price, per box	Calculated growers' price from auction sales, per ton	Growers' canning price, per ton
	<i>dollars</i>	<i>dollars</i>	<i>dollars</i>
Averages:			
1924-1928.....	3.09	51	49
1931-1933.....	2.27	22	17
Annual:			
1934.....	2.52	38	35
1935.....	2.34	29	32
1936.....	2.32	28	26-27

Late Varieties.—Shipments of California pears other than Bartletts and Hardys are the ones that compete most directly with fresh-pear shipments from the Pacific Northwest and eastern states. These fall and winter varieties (excluding Hardys) constitute only about 15 per cent of the bearing pear acreage in the state. In recent years less than 10 per cent of the California pear crop has been shipped after September 1 in direct competition with fresh shipments from other states. A large majority of the state crop of fall and winter varieties of pears is grown in the Santa Clara Valley and most of the remainder in the mountain counties of El Dorado and Placer.

Prospects for returns from late varieties of pears appear to be more discouraging than for Bartletts, because production is increasing at a faster rate than for Bartletts and there are greater difficulties involved in marketing these varieties and in increasing the demand for them. Although eastern pear production now averages about 25 per cent less than fifteen years ago, the market for Pacific Coast late pears has not broadened nearly as much as the absolute decrease in eastern production might suggest. Perhaps much of the decline has been of a noncommercial nature. Pacific Coast shipments of pears other than Bartletts are now

normally about four times as great as they were just after the World War.

How unsatisfactory late-pear prices have been is indicated by the following average New York delivered auction prices of the chief varieties of Pacific Coast pears as compared with California Bartletts during the 1932-1935 marketing seasons. In addition to the packing, transportation, and marketing costs borne by interstate Bartlett shipments of \$1.65 to \$1.75 a box, late varieties ordinarily pay cold storage for a month or more.

California Bartlett, per box	Anjou, per box	Comice, per box	Bosc, per box	Winter Nelis, per box
<i>dollars</i>	<i>dollars</i>	<i>dollars</i>	<i>dollars</i>	<i>dollars</i>
2.27	2.27	2.07	1.99	1.93

PLUMS

Since prospective normal crops of fresh plums on the Pacific Coast will probably be no larger than the 1936 crop, and if the level of demand is somewhat higher, California growers may expect farm prices of normal plum crops during the next three years to average higher than in 1936, possibly about as high as in 1935.

The trend of bearing acreage of fresh prunes and plums in both California and the Pacific Northwest, the main producing areas in the United States, is slightly downward. Preliminary estimates indicate that the 1936 production of plums and fresh prunes was close to normal in the Pacific Northwest and above normal in California. Each produced about 64,000 tons as compared with a 1931-1935 average of about 55,000 tons for California and about 64,000 tons for the Pacific Northwest.

The California Coöperative Crop Reporting Service estimates that only 26,200 acres of plums were in bearing in California in 1936 as compared with a peak of over 33,000 acres in 1928. The acreage not yet in bearing in 1936 was about 2,500, or approximately 9 per cent of the total acreage, together with about 500 acres planted in the winter of 1935-36. According to the Census of Agriculture, approximately 3 per cent of the total plum and prune acreage in the Pacific Northwest was not yet of bearing age in 1935.

California fresh plums compete but slightly with those produced in the Pacific Northwest and elsewhere in the United States. Well over 95 per cent of the fresh-plum production of California is ordinarily eaten as fresh fruit and a very large majority of this is marketed before ship-

ments from other states are available in significant quantities. In 1936 substantial shipments of fresh prunes and plums from the Pacific Northwest did not occur until the second week in August. By that time California had shipped nearly 95 per cent of its crop. Data on the disposition of the California plum crop shown below indicate what a large majority of its crop is dependent on markets outside of the state. During recent years 81 per cent of the crop has been shipped fresh from the state, 16 per cent used fresh within the state, and only 3 per cent canned commercially.

	Harvested production	Interstate shipments	Used fresh within state	Canned
	<i>tons</i>	<i>tons</i>	<i>tons</i>	<i>tons</i>
Averages:				
1928-1930.....	62,700	53,100	6,900	2,700
1931-1935.....	55,200	44,600	8,900	1,700
Annual:				
1934.....	62,000	51,300	8,900	1,800
1935.....	48,000	37,000	8,900	2,100
1936.....	64,000	51,600	.....	.....

Interstate shipments of almost 4,000 cars of fresh plums from California in 1936 were about the same as in 1934 but nearly 1,200 more than in 1935. With demand about the same as in 1934 and 1935, New York delivered auction prices averaged \$1.34 in 1936 or about \$0.04 a crate less than in 1934 and \$0.26 less than in 1935. The decline in 1936 prices below those in 1935 was due primarily to the big increase in fresh shipments from California.

Most of the national canned pack of fresh prunes and plums comes from the Pacific Northwest. Its pack has increased enormously during the past fifteen years while the California pack has shrunk to insignificance. During 1933-1935 the Pacific Northwest pack of 1,165,000 cases (equivalent 24 No. 2½ cans) was over ten times as large as the California pack.

PRUNES

Competition from other fruits is likely to be so keen and normal world supplies of dried prunes sufficiently plentiful during the next few years that farm prices of California dried prunes are likely to average considerably below the predepression average of approximately 5 cents a pound.

Changes in world commercial dried-prune production in recent years have been as follows:

	World total	Europe	California	Oregon and Washington
	<i>tons</i>	<i>tons</i>	<i>tons</i>	<i>tons</i>
Averages:				
1927-1931.....	256,000	24,000	205,000	27,000
1932-1934.....	231,000	35,000	173,000	23,000
Annual:				
1935.....	331,000	33,000	258,000	40,000
1936.....	237,000	60,000	153,000	24,000

World commercial dried-prune production was considerably above normal in 1935 and much below normal in 1932-1934, largely because of abnormal extremes in California yields per acre. With normal weather conditions, world production during the next few years is likely to approximate the 1927-1931 average. Europe may normally produce about 15 per cent of the world output, or somewhat more than the 35,000-ton average for 1932-1934. Production in France is likely to remain small. The trend in Oregon and Washington is downward with prospects for normal crops smaller than those of the past two years.

With yields equal to the 1927-1931 average, the present bearing prune acreage in California is capable of producing about 190,000 dried tons, or about 75 per cent of the prospective normal world dried-prune output. California bearing prune acreage is now about 156,000 as compared with a peak of 171,000 in 1930 and only 104,000 in 1919. The acreage not yet in bearing in 1936 is only 8,460, or about 5 per cent of the total of all ages. Data on supplies and disappearance of prunes for recent crop years for the world and for California are as follows:

Beginning September 1	World supplies	Apparent world disappearance	California supplies	Apparent California disappearance
	<i>tons</i>	<i>tons</i>	<i>tons</i>	<i>tons</i>
Averages:				
1927-28 to 1931-32.....	273,000	252,000	222,000	201,000
1932-33 to 1934-35.....	265,000	232,000	208,000	175,000
Annual:				
1934-35.....	270,000	235,000	206,000	171,000
1935-36.....	366,000	295,000	293,000	223,000
1936-37.....	307,000	.....	223,000	.....

The world supply of prunes available for the 1936 marketing season, although considerably larger than usual, was about 15 per cent less than the enormous tonnage in sight on September 1, 1935. The small 1936 California crop was largely counterbalanced by the largest carry-over of old prunes that has ever occurred in the state. Moreover, 1936 production in Europe was larger than the average of recent years. Much of the reported increase in the Yugoslavian output may find a market in Germany, with whom Yugoslavia has much more favorable trade relations than we.

World disappearance of prunes during the marketing year beginning September 1, 1935, was the largest in any single year since the World War, but only slightly less than supplies available for the present marketing season. The United States was responsible for the 60,000-ton increase in disappearance during the 1935 marketing season over that of 1934. About half of the increase was exported to foreign markets. The very large shipments for domestic use during the 1935 season are largely accounted for by the 26,000 tons that reached consumers through relief channels and the 10,000 tons of off-grade prunes that were converted into by-products. United States shipments through regular trade channels were just about the same during the 1935 marketing season as during 1934.

United States prune shipments in unprocessed weight (including those in dried-fruit salad) to the domestic and foreign markets for recent marketing seasons beginning September 1 have been approximately as follows:

	Total shipments	For United States consumption	Exports to foreign countries
	<i>tons</i>	<i>tons</i>	<i>tons</i>
Averages:			
1927-28 to 1931-32.....	228,000	106,000	122,000
1932-33 to 1934-35.....	198,000	108,000	90,000
Annual:			
1933-34.....	194,000	97,000	97,000
1934-35.....	200,000	121,000	79,000
1935-36.....	262,000	149,000	113,000

During the decade before 1932, less than half of the national dried-prune output was consumed at home, but since then home consumption has averaged considerably greater than exports. During the past two

years exports absorbed only about 40 per cent of United States shipments. Aside from the effects of the depression, the chief reason for the big decline in exports has been the curtailment of German importations as a result of its drastic trade and currency regulations.

Since the collapse of the German market, our most important foreign outlets for prunes have been the United Kingdom and France, which together took over 40 per cent of the total exported from the United States during the past year. The devaluation of the French franc has been about the most important influence weakening export demand for our dried prunes during the present marketing season. Although modification of foreign-trade barriers and readjustment in foreign currencies may result in some increase in export demand over that of the 1936-37 marketing season, it is uncertain whether demand will attain a level much higher than in 1935-36 during the next few years. Germany is not likely to regain her former importance as an export market for some time.

The fact that 1936 supplies of California prunes were no larger than the total disposed of during 1935-36, combined with trade optimism regarding increased demand for prunes as a result of food shortage in the Midwest and the exceptionally small United States apple crop, largely account for the marked increase in prune prices since the fall of 1935. However, unless consumer demand for California prunes is increasing much faster than city consumers' purchasing power, the prices prevailing for the 1936 crop through November might be expected to curtail this season's shipments of California prunes through regular trade channels considerably below the disappearance through those channels during 1935-36. The great bulk of the 1935 crop of California prunes was sold by packers to the trade at about 3.5 cents a pound for 50/60 Santa Claras. Through November, packer prices to the trade and to growers on the 1936 crop appear to have been about 1½ cents above those for the 1935 crop.

SWEET CHERRIES

Although some improvement in domestic demand is expected, normal crops of sweet and sour cherries in the United States will probably be so large during the next three years that farm prices for California sweet cherries are likely to average less than before the depression.

Further increases in the bearing acreage of sweet cherries in the Far West, together with increasing yields from the younger trees as they grow older, should result in a continuation in the upward trend of pro-

duction during the next few years. The acreage in Oregon, Washington, and California is nearly double that in 1920. In 1935 approximately 20 per cent of the total acreage of cherries in these states was not yet in bearing. Cherry trees are normally long-lived on the Pacific Coast, and yields usually increase until they are over twenty years old. With yields per acre near normal, the present bearing acreage of cherries in the Far West will produce crops of about 55,000 tons, or greater than the average production during 1930-1934 and nearly as large as the 1936 crop.

Since California yields per acre are usually likely to be slightly larger than in 1936, it appears that the 14,500 bearing acres in the state in 1936 have a potential normal-producing capacity in excess of 20,000 tons. About 2,000 acres of sweet cherries, or approximately 12 per cent of the total acreage, were not yet in bearing in California in 1936. About 100 acres were planted in the winter of 1935-36.

About 90 per cent of the commercial output of sweet cherries in the United States is produced in the five far western states for which total production, harvested and unharvested, is shown below for recent years :

	California	Oregon and Washington	Idaho and Utah	Total
	<i>tons</i>	<i>tons</i>	<i>tons</i>	<i>tons</i>
Averages:				
1925-1929	15,400	20,400	7,100	42,900
1930-1934	20,100	26,000	6,600	52,700
Annual:				
1934	16,700	23,500	6,800	47,000
1935	15,000	26,500	6,600	48,100
1936	21,500	28,900	7,200	57,600

During the past decade over 55 per cent of the harvested production of California sweet cherries has been sold to consumers fresh. Most of these have been the black varieties. California cherries usually ripen so early that they compete but little with either cherry shipments from other states or other fresh-fruit shipments. The increased state production of black varieties has, therefore, practically all been taken by the fresh-fruit market.

Interstate shipments of fresh California cherries of 790 cars in 1936 were somewhat less than the 1930-1934 average, but greater than the very small movement in 1935. Fresh shipments as large as those in 1936 or larger are to be expected whenever California cherry crops are

normal or above. With eastern demand for our fresh cherries in 1936 about the same as in 1935, prices fell as a result of increased shipments. Judging by New York auction prices, California growers received about 5.0 cents a pound for black-cherry shipments to the East in 1936 and 7.0 cents in 1935 as compared with a 1931-1934 average of about 5.5 cents.

Interstate shipments of California fresh cherries and consumption in the state have been as follows:

	Total consumed fresh	Used fresh within the state	Shipped fresh out of state
	<i>tons</i>	<i>tons</i>	<i>tons</i>
Averages:			
1925-1929.....	9,100	3,800	5,300
1930-1934.....	10,900	4,200	6,700
Annual:			
1934.....	9,675	3,375	6,300
1935.....	7,800	3,300	4,500
1936.....	11,500	4,400	7,100

Royal Anns.—California usually produces about 45 per cent of Pacific Coast production of Royal Anns (Napoleon), which has risen at about the same rate as total production of all cherries during the past fifteen years. Nearly all the Royal Ann crop on the Pacific Coast has been canned and barreled in brine in recent years, so the California output of this variety competes directly with that of the Pacific Northwest.

The unofficial trade estimates that follow indicate trends in production and utilization of Royal Anns on the Pacific Coast during the past decade. About 15,500 tons were barreled in brine in 1936 but estimates are not yet available on the quantity canned.

	Total canned and brined	Canned	Barreled in brine
	<i>tons</i>	<i>tons</i>	<i>tons</i>
Averages:			
1925-1929.....	13,900	11,700	2,200
1930-1934.....	16,600	9,200	7,400
Annual:			
1934.....	14,900	6,900	8,000
1935.....	18,300	7,400	10,900

The marked slump in the demand for, and the consumption of, canned sweet cherries during the depression was fortunately largely offset by the rapid increase in the tonnage of Royal Anns barreled in brine for making maraschino and glacé cherries. Barreling of this variety on a large scale was stimulated by the big decline in our foreign imports of such cherries which took place after the United States imposed the higher import duty in June, 1930. Domestic production supplied only about 20 per cent of the maraschino stock used in the United States before 1930, but since then imports have become so small and Pacific Coast output so large that over 90 per cent is now produced at home. About 50 per cent of Pacific Coast production of Royal Anns has been barreled in brine in recent years as compared with less than 20 per cent before 1930. California has usually supplied a little less than 50 per cent of the Pacific Coast brined pack during the last five years and has utilized about the same proportion of the California Royal Ann crop in its manufacture.

During the past three years a considerable and increasing quantity of eastern cherries has been barreled in brine. Trade estimates indicate that about 8,000 tons were barreled in 1935, of which about 80 per cent were sour cherries. The Montmorency variety is said to make an inferior brined product because of its soft texture. It would, therefore, compete mostly with the lower grades of the Pacific Coast brined pack.

The demand for brined cherries appears to have increased during the past few years as a result of the repeal of Prohibition and the growth of the pack of canned-fruit cocktail. However, the market for glacé and maraschino type cherries is inelastic. With the possibility of continued competition from eastern brined sour cherries, there is danger of glutted markets and low prices whenever Royal Ann production on the Pacific Coast is large during the next few years.

Until about 1930 the canned pack of Royal Anns increased at about the same rate as total production of this variety on the Pacific Coast. However, the demand for this luxury was so small during the depression that the pack averaged at least 20 per cent less during 1930-1934 than during 1925-1929, in spite of drastic price cuts to both growers and consumers. California packed somewhat less than half of the canned output in recent years and has utilized about the same proportion of the Royal Ann crop of the state in its manufacture.

The trend in the canned pack of sweet cherries in California and the Pacific Northwest is shown on p. 47 in cases of equivalent 24 No. 2½ cans. The 1936 Pacific Coast pack was probably no larger than the 1935.

The large 1936 crop of Royal Anns brought growers somewhat over 5 cents a pound, or about 1 cent less than the 1935 crop. This compares with a state average of about 4 cents for 1931-1934, and a low of 3 cents in 1932. The average price for 1921-1930 was approximately $8\frac{1}{4}$ cents a pound. Cannery quotations on the 1936 pack of Choice Royal Anns per dozen No. 2 $\frac{1}{2}$ cans, f.o.b. California have been firm at about \$2.25 for unadvertised brands, or about the same as the 1934 pack and about \$0.20 less than the 1935.

	Royal Anns total	California Royal Anns	Pacific Northwest Royal Anns	Pacific Northwest Blacks
	<i>cases</i>	<i>cases</i>	<i>cases</i>	<i>cases</i>
Averages:				
1925-1929.....	700,000	307,000	393,000	47,000
1930-1934.....	551,000	261,000	290,000	29,000
Annual:				
1934.....	414,000	160,000	254,000	33,000
1935.....	441,000	133,000	308,000	55,000

WALNUTS

Walnut supplies continue to be excessive. The bearing acreage in the United States will most likely show further increase for the next four years. Prices to growers will probably average relatively low, although improvement in consumer purchasing power will have some beneficial effect. A further price stimulus for the immediate crop will result from shorter supplies of walnuts, pecans, and almonds than were available for the 1935-36 marketing season.

California production for 1936 is estimated at 42,000 tons, orchard run; Oregon production at 1,400 tons, orchard run. The forecast of the European crop for 1936 was reported on September 26 by the United States Department of Agriculture at 91,740 tons. The combined estimate for the 1936 crop in the United States and Europe is 135,140 tons. This compares with an average annual production of 129,140 tons for the same territory for the period 1929-1935, inclusive.

While the United States crop is almost 20 per cent smaller than the all-time record crop of 1935, the supplies for the 1936-37 marketing season, including a carryover of more than 4,500 tons, are above the average for the past seven years.

From 1933 through the present season, the walnut industry in California and the Pacific Northwest has maintained a reasonable level of

prices for unshelled walnuts sold in the domestic market by diverting a part of the total supply to the domestic shelled and to the foreign unshelled markets. Under the terms of a marketing agreement and order, which applied to all handlers of walnuts on the Pacific Coast, 30 per cent of the merchantable crop has been diverted into the above-named outlets. Under the terms of the 1936-37 agreement, 25 per cent of the merchantable crop will be so diverted. While such procedure has resulted in increased returns to producers, it is evident that without artificial stimulus or greatly improved demand conditions, the supply of walnuts which will normally be produced from the present acreage will be excessively large.

Under the present tariff schedules imports of unshelled walnuts are not likely to be a material factor in the supply situation. Also, imports of shelled walnuts will probably continue to decline as long as a part of the merchantable domestic crop is used for shelling purposes. Since the crop year 1932-33, exports of walnuts from the United States have been a material factor in decreasing the supply which otherwise would have been available for the domestic market. Exports from 1932-33 have been as follows:

	<i>tons</i>
1932-33	3,721
1933-34	7,447
1934-35	6,203
1935-36	6,712

With some governmental assistance to the walnut industry, in the form of a subsidy, for the purpose of encouraging exports, it is likely that this market will be maintained during the present marketing year.

The bearing acreage of walnuts in California—which state produces more than 90 per cent of the total United States commercial crop—has increased from 71,779 to 127,970 acres during the past ten years. Since 1928, nonbearing acreage has declined, but it is still sufficient to result in an increase in the bearing acreage under normal climatic conditions for the next four-year period. The upward trend in the bearing acreage of walnuts in the Pacific Northwest will exceed that in California. Changes in California acreage are shown in figure 4.

Probable factors which will affect the walnut industry are heavy production in line with the upward trend in bearing acreage, increased competition from pecans, and continued high consumption of cashews. Based upon these conditions, walnut prices are likely to be somewhat

lower in the future than during the past except as they may fluctuate with changes in consumer income.

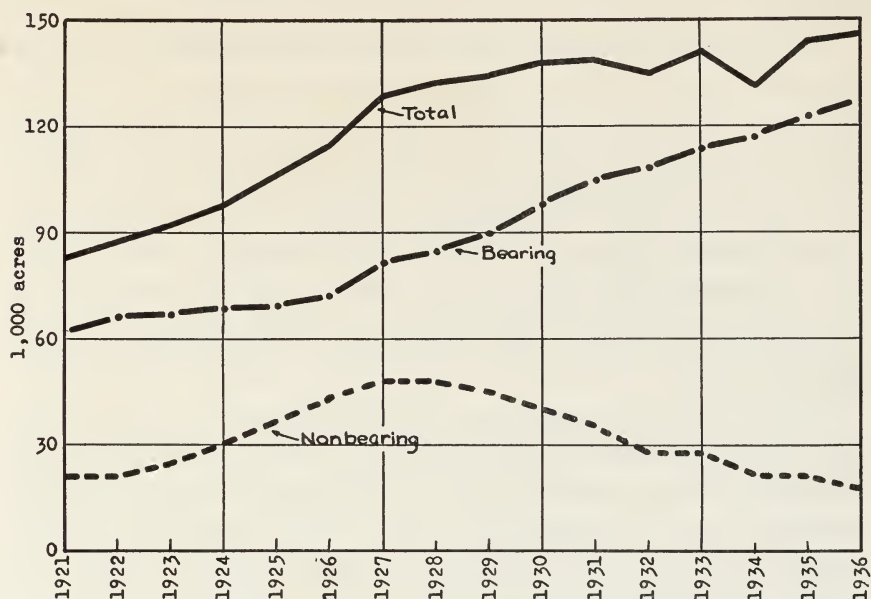


Fig. 4.—Walnut acreage in California, 1921–1936.

ALFALFA

United States and California hay supplies this year are about normal. A strong demand, short feed-grain supplies, and drought-reduced pasture conditions in certain sections will keep hay and other feed prices high during most of the 1936–37 season. If United States feed-grain and hay production in 1937 is near average, their prices will probably experience a more-than-normal seasonal decline in the summer and fall. California alfalfa growers may anticipate increased competition from the expansion of irrigated pastures, and from the influence of the Agricultural Conservation Program which is tending to increase acreage and production of all leguminous crops.

United States hay supplies for 1936–37 are approximately normal. The United States hay crop just harvested was the smallest in more than twenty years except for that of 1934. However, an unusually large farm carryover from the 1935 crop offset the small crop, and the total supply for the season is more than the average for the preceding five years. Hay-consuming animal units have decreased slightly, and the hay supply per animal unit is about 1.08 tons as compared with 1.15

in 1935-36. Supplies of by-product feeds (protein concentrates, etc.) per grain-consuming animal unit are about 10 per cent larger than in 1934-35.

The United States supply of feed grains, however, is short. For grain-consuming animal units the supply is almost as small as in 1934 and one-fourth smaller than last year. At the same time, pasture conditions for the nation on November 1, averaged considerably below those of 1935-36. With this supply situation, a strong demand will support hay and other feed prices at high levels at least until the 1937 feed-crop prospects become apparent. The present hay acreage is sufficient to produce an ample crop in 1937 providing normal weather conditions prevail. If feed grain and hay production next year is near average, prices will probably experience a more than normal decline during the summer and early fall.

In the eleven western states all tame-hay production is somewhat above that of last year and the alfalfa crop is about 10 per cent greater than in 1935-36. For these states pasture and range conditions on November 1 are both 10 per cent lower than last year. In California, a slightly larger yield per acre and a 5 per cent increase in acreage resulted in an alfalfa crop of almost 3,000,000 tons which is 7 per cent larger than in 1935-36. However, production of grain and other tame hay was about 130,000 tons smaller than in 1935-36, so that all tame-hay production in the state was less than 2 per cent larger than last year. If California and Arizona are considered together, production of all tame hay in 1936-37 is slightly larger than in 1935-36, and production of alfalfa hay is increased almost 7 per cent. Despite these relatively large supplies of hay, a strong feeding demand³ and high prices of feed grains and by-product feeds raised No. 1 alfalfa hay prices in San Francisco to an average for October of \$18.00 a ton as compared with \$14.31 a year ago, and in Los Angeles to \$17.75 as compared with \$14.50. While alfalfa prices will respond in some degree to changes in pasture conditions as affected by winter moisture conditions, alfalfa prices in California will probably remain higher than in 1935-36 at least until next summer.

If normal growing conditions exist, the national supply and price situation for hay in 1937-38 may well resemble that in 1935-36. Apart from the stimulus to increased hay and feed-grain production arising from the present high prices, California alfalfa growers may expect increased competition from the expansion of irrigated pastures, which are planted to Ladino clover particularly. This trend tends to reduce

³ See livestock section of this report.

the demand for alfalfa for beef cattle, dairy cattle, and sheep. A similar depressing influence on future alfalfa prices will come from the probable increase in acreage and production of all leguminous crops which are being encouraged by the Agricultural Conservation Program.

BARLEY

California farmers should not look forward to an extension of present high barley prices into the 1937-38 season. Expansion of acreage will be the reaction to short barley and other feed-grain supplies in the current season. If production in 1937 is near average, a greater-than-normal seasonal decline in prices may be expected in the summer and fall of 1937. A continuation of the present upward trend in beer production would strengthen the outlook for malting barley in this country.

The shortage in present feed supplies is primarily in grain. The supply of feed grains per grain-consuming animal unit is about the same as in the drought year 1934-35, but about one-fourth less than a year ago. Hay supplies per hay-consuming animal unit are about normal and nearly one-third more than in 1934-35. The supply of by-product feeds per grain-consuming animal unit is expected to be about 10 per cent larger than in 1934-35. Pastures will probably furnish almost normal feed supplies this fall and winter except in the northern Great Plains region. In California, pasture conditions on November 1 were normal.

Barley production for the nation, November estimate, is little more than half of the 1935 crop which was about the same as the average crop from 1928 to 1932. The north central states experienced the greatest reduction, the crop being only 39 per cent of the 1928-1932 average. California production this year, however, was 745,000 tons, or about 5 per cent larger than that average. When carryover is taken into consideration, the national supply of barley for 1936-37 is about 66 per cent, and that for California is about 108 per cent of the corresponding five-year averages.

Prices of all feed grains, by-product feeds, and hay will remain high during most of the current crop year. A strong domestic and foreign demand for malting barley, as well as the feed demand, is expected to maintain barley prices at high levels until the 1937 crop is available. These prices will stimulate farmers to expand their barley acreage. To a certain extent, moisture and soil conditions in midwestern states may limit acreage seeded to barley in 1937. Unless growing conditions are far below normal, however, the 1937 crop will probably be somewhat near the size of that harvested in 1935. Since there is no reason to expect

a proportionate increase in the various types of demand for barley, California growers should not look forward to an extension of the present high barley prices into the 1937-38 season.

If feed-grain production during the next few years is approximately average, the position of cash-grain farmers will be less favorable than that of livestock producers. The total number of animal units on farms January 1, 1937, will probably be about the same as a year earlier, and it will take several years for livestock production to regain the level existing from 1930 to 1934.

Feed use of California barley is ordinarily larger than malting use both in this country and abroad. In a year of abundant feed at low prices, such as 1935-36, feed use in the state has amounted to as much as 462,000 tons, or 56 per cent of the total California barley supply. In a year when high feed prices restrict feeding, such as 1934-35, feed use of California barley has amounted to only 318,000 tons, or 46 per cent of the available supply. In the current season, which in many respects is similar to 1934-35, feed and malting uses compete for barley of a quality which is suitable for either purpose. The high prices to which this competition forces such barley, stimulates substitution of other feeds. Feed-barley prices in California thus far in 1936-37 have been high relative to those of feed wheat, sacked milo, feed concentrates, and alfalfa hay. The consequences of this situation are that the volume of barley moving into feed channels is reduced, and the lower-priced grains are used instead wherever possible. For this reason imports of corn are expected to be above those of 1934-35 when they constituted about 2.5 per cent of the season's corn crop.

The United States has been on an import basis for barley malt since 1931. Because malting takes better qualities of our barley at relatively high prices, this demand is effective whether the national crop is large or small. In 1935-36, about 1,300,000 tons, or 19 per cent of the crop of domestic barley was used in malting. Domestic malting use has shown a marked upward trend. Production of beer in 1935-36 was 16 per cent greater in the United States than in the previous year, and a corresponding increase of 33 per cent occurred in California. With the anticipated further improvement in business activity, some increase may be expected in the demand for barley malt in both California and the nation.

Export demand for California barley depends upon price and supply relations in foreign markets, primarily the United Kingdom. In a year like 1934-35, when domestic barley prices were high, exports tend to be limited by foreign competition. In that year our foreign shipments were

95,300 tons, while in 1935-36, when domestic prices were low, 216,800 tons was exported. This year the United Kingdom crop is 3 per cent smaller than in 1935 and British beer production has shown a tendency to increase. British brewers will restrict their use of imported barley to less than 200,000 tons in 1936-37. Competition from other European barleys is likely to be abated since, although the crop in 24 European countries is slightly larger than last year, exportable quantities are smaller than in either of the past two years because of larger domestic utilization. Thus far in the current crop year about 91,000 tons of California barley has been exported.

COTTON

Large world supplies of cotton in 1936-37 are made up of reduced supplies of United States cotton offset by increased quantities of foreign cotton. Further increases in carryover and production of foreign cotton may result in 1937-38 supplies of such cotton exceeding the unusually large supply of 1936-37. World carryover of United States cotton will probably be smaller in 1937 than in 1936, so that increased United States production could occur without resulting in a larger supply of such cotton than that in 1936-37. Mill consumption in this country increased last year and a further increase is expected in 1936-37. Increased prices may result in larger United States cotton acreage.

World mill consumption of cotton in 1935-36 substantially exceeded that for any other year on record, and exceeded 1934-35 consumption by 6 per cent. More than 75 per cent of this increase occurred in United States cotton, and almost 66 per cent of it took place in the United States. If world business activity improves, total cotton consumption may again increase in 1936-37. The outlook for world consumption of United States cotton, however, is less favorable than for foreign cotton, mainly because of increased supplies of the latter. Trends in world cotton supplies in millions of bales by producing countries are shown in table 10.

United States consumption increased last year and was about 5 per cent greater than average for the ten years ending 1932-33. This is largely attributed to improved business activity and larger consumer income. At the beginning of the current season mill stocks were apparently smaller and unfilled orders larger than at the beginning of either of the two preceding seasons. In October, 1936, it appeared that mill consumption in 1936-37 would show an increase above 1935-36. The carryover of United States cotton in August, 1936, was 7,000,000 bales, which was 6,000,000 bales less than the peak in 1932 but considerably

larger than average for the ten years ending in 1932-33. The United States 1936 crop is about 1,000,000 bales larger than a year ago, and the foreign crop is expected to be 1,600,000 bales larger than that of last season. The 1936 world crop is apparently the largest in history. Carry-over of foreign cotton in August was about 400,000 bales larger than a year ago, setting a new high record. Consequently, the current world

TABLE 10
WORLD COTTON SUPPLY BY PRODUCING AREAS

Season beginning August 1	United States	Foreign cotton				World total
		Indian	Egyptian	Other	Total	
Averages:	<i>million bales*</i>	<i>million bales*</i>	<i>million bales*</i>	<i>million bales*</i>	<i>million bales*</i>	<i>million bales*</i>
1923-24 to 1932-33.....	20.4	6.8	2.5	6.1	15.4	35.8
Annual:						
1932-33.....	26.0	5.7	2.4	6.9	15.0	41.0
1933-34.....	24.6	6.8	2.8	8.6	18.2	42.8
1934-35.....	20.3	7.0	2.6	10.1	19.7	40.0
1935-36.....	19.6	7.1	2.6	11.0	20.7	40.3
1936-37.....	18.6	7.6	2.6	12.5	22.7	41.3

* Bales containing 500 pounds lint cotton.

supply is larger than in either of the past two years and is within 1,500,000 bales of the all-time peak of 1933-34. Consumption of United States cotton this season is expected to exceed production, which will result in a reduced carryover in August, 1937. Consequently, the United States cotton crop in 1937 could be increased somewhat without enlarging a world supply of United States cotton for 1937-38 beyond the comparatively small supply of the present season. California cotton acreage harvested in 1936 was 364,000 as compared with 218,000 in 1935 and a previous peak acreage in 1929 of 309,000. Yield per acre in 1936 was 561 pounds, the largest on record. As a result, the California crop was 427,000 bales as compared with 239,000 in 1935 and a previous maximum of 264,000 in 1930.

Changes in foreign cotton supplies materially affect the prices of United States cotton; and if the former continues to increase, foreign cotton would become increasingly influential in determining the world price of all cotton. Moreover, the increasing adaptability of manufacturing processes to a wider range of staple lengths and the increasing proportion of foreign cotton which is similar in quality to United States

cotton are tending to increase the direct competition of foreign cotton with that from the United States in world markets. This suggests the advisability of maintaining and improving the quality of United States cotton.

DRY BEANS

The United States 1936-37 supply of dry beans is less than 80 per cent of that for the preceding year. This is the result of extremely low yields—particularly in the Pea-bean area—and of an acreage somewhat smaller than average, as well as of increased bean consumption. Prices of most varieties rose sharply during the spring and summer and will probably remain high, at least until the 1937 crop prospects become apparent. These high domestic prices will tend to increase bean imports, while export possibilities will diminish. California supplies appear to be average or below for all varieties except baby limas, of which there is an unusually large supply. In the states producing Pea beans, Great Northern beans, and Pinto beans, a considerable expansion in acreage appears probable in 1937.

With a carryover on September 1 in the main producing sections of only 1,000,000 bags and a total crop estimated on November 1 at 10,755,000 bags, the supply is more than one-fifth smaller than that of a year ago and very much below that of the average of the five years ending in 1932-33. Trade reports indicate that when the crop is all accounted for it will be even smaller than the present official estimate. Most of the decrease in 1936, as compared with that in 1935, is in the Pea and Pinto-bean production, as shown in table 11. This short crop is the result of very low yields—especially in the Pea-bean-producing area—and of an acreage harvested for the country as a whole 6 per cent smaller than in 1935. The visible carryover into the current year was smaller than was anticipated a year ago when supplies were very large, because of increased consumption in 1935-36 and because of heavy purchases of old-crop beans by wholesale distributors in the early summer, prompted by the poor prospects for the 1936 crop.

High prices in the 1936-37 season will tend to increase imports and stimulate expansion of acreage to be planted to beans in 1937. Prices of most varieties rose sharply, beginning in the early summer, and will probably remain high, at least until the 1937 crop prospects become apparent. With present price levels, imports are to be expected. Importable white beans in the world market, however, are not plentiful this year. The lower Danube basin has an exportable surplus about 3 per cent smaller than last year and 17 per cent smaller than average for

the preceding five years, while Japan's exportable supply of white beans is very small as compared with the Pea-bean shortage in this country. If the prospect at planting season in 1937 is for a negligible carryover next fall, as now seems likely, and if prices are still high, a considerable increase in acreage may be expected, particularly in the areas growing

TABLE 11

BEAN PRODUCTION BY PRINCIPAL PRODUCING STATES ACCORDING TO DOMINANT VARIETIES

States	Average, 10 years ending in 1935	1935	1936	Change from 1935 to 1936	
				Amount	Percentage
	<i>1,000 bags</i>	<i>1,000 bags</i>	<i>1,000 bags</i>	<i>1,000 bags</i>	<i>per cent</i>
Pea bean (Michigan and New York).....	4,205	5,680	2,934	-2,746	-48
Great Northern bean (Idaho, Montana, Wyoming).....	2,009	2,267	2,209	- 58	- 3
Pinto bean (Colorado, New Mexico).....	1,628	1,558	1,279	- 279	-18
California (all varieties).....	3,409	3,966	4,002	+ 36	+ 1
United States total.....	11,533	13,799	10,755	-3,044	-22

Pea beans, Pintos, and Great Northerns. If, as is often the case, this results in an excessive crop as a consequence of normal or above-normal yields, bean growers will be faced a year from now with prices perhaps comparable with those of the 1935-36 season.

Supplies of all bean varieties produced in California for the current season appear to be average or below average except that there is an unusually large supply of baby limas. No official estimates of production by varieties are now available and trade reports vary widely. It is apparent, however, that field-run production of Large limas will total at least 1,000,000 bags, which is larger than the 1935 crop and close to the average crop for the five preceding years. A price analysis covering the past thirteen years suggests that the present supply will bring an average f.o.b. price of about \$7.00 a bag in 1936-37 if consumer income and prices of competing products remain at their present (November) levels for the remainder of the crop year. Carryover of Large limas at the first of this year was only 7,000 bags, and it may be anticipated that the carryover next year will also be nominal. Production of baby limas will be 812,000 bags if the crop bears out the November 1 estimate. This,

with a carryover of 21,000 bags, would give a supply more than 25 per cent larger than last year's and more than 20 per cent larger than average for the preceding five years. Despite this supply situation, however, baby-lima prices, f.o.b. rail, are now quoted at about \$1.50 a bag more than a year ago.

FLAXSEED

Both in the United States and in the world, it appears that demand for flaxseed will be greater when the 1937 crop is marketed than during the current season. World supplies of flaxseed in August, 1937, however, will probably be considerably larger than was the case this year if growing conditions are more nearly normal than they have been in the past few years when crops have been reduced by drought. Plantings of flax in the United States outside of California in 1937 will probably be smaller than in either 1935 or 1936. California's flax industry, therefore, apparently could expand materially in 1937 without changing the state from a deficit to a surplus flaxseed area, and without depressing appreciably the domestic flaxseed price level.

Present levels of building activity, industrial production, and other factors bearing upon the demand for flaxseed here and abroad indicate that demand in the four principal linseed-oil consuming countries is now well above the level maintained during the marketing of the 1935 domestic flaxseed crop. A further increase in demand is expected to occur during the remainder of the 1936-37 marketing season with a less marked upward trend continued through the fall months of 1937. The volume of building activity in the United States in the first eight months of 1936 was 80 per cent greater than in the same period of 1935 and the upward trend is expected to continue into 1937.

The quantity of flaxseed available for market at the beginning of the 1936-37 season in the United States, Canada, Argentina, and India was very small as compared with that in 1935 which was about equal to the average for the five years ending in August, 1932. However, it appears that the 1936-37 crop in Argentina will be much larger than last year's short crop and about equal to average. World supplies in the 1937-38 season will probably be greater than for the current season if yields are more nearly normal than they have been during the past several years when severe droughts caused extensive abandonment of seeded acreage and reduced outturns in important producing countries.

With a strong demand and rather short supplies for the remainder of the 1936-37 season, it appears that flaxseed prices in the United States

will continue at high levels. The North American 1936 crop is little more than half that of 1935 and is of relatively low quality. The seed has a low oil content and the low iodine number indicates poor drying quality. The United States total domestic commercial supply in 1936-37 is about 8,300,000 bushels, or about 20,000,000 bushels less than prospective domestic requirements. The 1936 acreage of flax seeded in the United States was slightly greater than the seeded acreage in 1935, but drought caused a total failure in large areas of North Dakota, South Dakota, and Montana. After a year of low yields and heavy abandonment for both flax and spring wheat, plantings of flax in 1937 will probably depend more on the spring moisture conditions and on the available seed supply than on returns of last year or on prospective returns in 1937. Because of poor quality, the supply of seed suitable for sowing is short. Even if normal conditions for seeding wheat and flax prevail, and no marked change in the price of flax relative to wheat occurs between now and planting time, the acreage planted in the northern flaxseed-producing states will probably be somewhat less than the acreage seeded in 1935. Unless yields per acre are above the average for the ten years ending in 1932 (7.3 bushels), it seems likely that the United States 1937 crop will not exceed about 15,000,000 bushels. Since domestic requirements in 1937-38 may be expected to be much greater than this quantity, and since the United States flaxseed market is protected by a 65 cent a bushel tariff, it is reasonable to anticipate a continuation of strong prices beyond the current crop year.

Competition from other drying oils has increased markedly in recent years, and the production of domestic soybeans has now reached large proportions. Imports of perilla and hempseed oil, which have made serious inroads into linseed-oil markets in the past four years, will be restricted by the tax of 4.5 cents a pound placed on them by the Bailey Amendment to the Revenue Act of 1936.

The annual linseed-oil consumption of California now is equivalent to between 1,000,000 and 1,500,000 bushels of flaxseed. In 1935, about 54 per cent of the linseed oil used came from out of the state. November estimates indicated a 1936 crop in California of 731,000 bushels, or a yield of 17 bushels per acre on 43,000 acres. It appears therefore that California flaxseed production could be about doubled without changing this state from a deficit to a surplus-producing area. Since California production and consumption of flaxseed are very small as compared with the national total, this state's production could probably increase considerably without affecting appreciably domestic flaxseed price levels.

HOPS

When the 1937 harvest begins virtually all of the 1935 and 1936 domestic hops will have moved into consumption channels, as well as some of the crops of 1934 and earlier years. Current high prices may lead to expansion in hop acreage. Even if no expansion takes place, under normal growing conditions the 1937 crop would approximate brewers' requirements. If considerable acreage expansion occurs and if per-acre yields should be normal or above, the domestic crop would be excessive.

Supplies of new-crop hops this year are considerably less than brewers' requirements. Hop production in the United States in 1936 amounted to only 23,406,000 pounds, a reduction of almost one-half from the 1935 harvest. There was a carryover in growers' hands of slightly less than 16,000,000 pounds, but about 14,000,000 pounds of them were of growths earlier than 1935. Even if it is assumed that these old hops which are of doubtful brewing value could all be used, the total supply for the year would be about 39,200,000 pounds. As compared with this supply, the total domestic disappearance of hops in 1935-36 amounted to almost 43,000,000 pounds.

By the end of the current crop year, it is probable that all the domestic 1935 and 1936 crops will have moved into consumption channels. The high prices which the short crop and a growing demand have brought about will result in heavy importation of foreign hops, and probably some utilization of the carryover of domestic hops grown in 1934 and in earlier years. Foreign hop production does not seem to be short this year although foreign prices have shown an upward tendency in recent months. The English crop is about equal to that of last year, while the crop on the European continent is reported as almost 4,000,000 pounds greater than the large 1935 crop. No relaxation of strict nationalistic control over hop markets is to be expected in the near future.

Production was small this year in the United States mainly because of serious damage from the downy mildew disease, aphids, and red spiders. In part this was due to the fact that many growers were financially unable to protect their crops because of the low prices which they received in the two preceding years, but it was also partly due to climatic conditions. The average yield for the total crop was 755 pounds an acre—the smallest since 1918. The low returns received by growers in recent years led them to reduce acreage to 31,000 in 1936 (a reduction of one-fifth from the 1935 acreage). Instead of a crop of 23,406,000 pounds, the domestic crop would have been about 37,000,000 pounds if the yield

this year had equaled the average for the five years ending in 1934. The percentage reduction in acreage was heaviest in Washington, followed by California and Oregon. The poor quality of some of the old hops now on hand is likely to result in a carryover of them into the succeeding crop year. If no expansion in acreage occurs in 1937, average yields will probably produce a crop approximately as large as brewers' total requirements. However, the present high hop prices will most likely lead to some expansion in acreage. If such is the case and normal or above-normal yields are realized, the domestic crop may again be excessive and market prices might again decline to unprofitable levels.

Total domestic disappearance of hops in 1935-36 was about 25 per cent larger than in the preceding year. The bulk of domestic utilization occurred in fermented malt liquors, the United States production of which increased 16 per cent as compared with that of 1934-35. The fact that summer temperatures in principal consuming markets were above normal in the past year undoubtedly stimulated part of the increase in beer production. However, even without this condition in 1936-37, it appears that beer production should use at least 35,000,000 pounds of hops.

RICE

Supplies of California rice are 43 per cent greater and rice from the southern states 15 per cent greater for 1936-37 than in the previous season. A slight increase is anticipated in domestic consumption because of improvement in consumer purchasing power, higher prices of competing commodities, and lower rice prices. However, there will probably be an unusually heavy carryover at the beginning of the 1937-38 season. This potential surplus might be reduced if consumption in insular possessions increases, and if exports could be materially increased through lowering prices. Foreign production this year is apparently larger than in 1935 and foreign competition in Cuba, our principal export market, will be severe in 1936-37.

The exceptionally large 1936 rice crop was due to the facts that per-acre yields were almost unparalleled and that the acreage in California was 20 per cent greater, and in the southern states, 10 per cent greater than in 1935. Rice supplies from the latter states carried into the current season were moderate, but the crop, which was one of the largest ever harvested, was 15 per cent larger than in 1935. In California, the carry-over into the current season was more than twice that of a year ago, and the crop of 4,029,300 bags was the second largest ever produced and a third larger than that of 1935.

Domestic consumption of rice and shipments to insular possessions may be slightly larger during 1936-37 than last year because of the anticipated improvement in consumer buying power, increased prices of some competing products—particularly potatoes—and lower rice prices. Since about three-fourths of California milled rice is sold in Hawaii and Puerto Rico, those markets are of prime concern to the California industry. Milled-rice prices inside the United States tariff wall of \$2.50 a hundredweight are much higher than prices in unprotected world markets. This makes it difficult to dispose of our domestic surplus in foreign markets in a year such as 1936-37 when foreign-rice supplies are large. The 1936 Japanese crop is large, being 18 per cent greater than in 1935 and 14 per cent greater than the average of the five preceding years. Exportable supplies in Siam, Java, and Indo-China are somewhat larger than last year. Cuba has been the chief foreign outlet for American rice during the past two years. Exports to that island in 1935-36 amounted to about 33,000,000 pounds or nearly half the total United States exports. With East Indian rices quoted well below United States offerings at Havana and nearly 225,000,000 pounds of Siamese rice in store in Cuba, that market will most likely take small quantities of American rice in the current crop year. It therefore appears that there will be an unusually heavy rice carryover in this country into the 1937-38 season.

SUGAR BEETS

Sugar prices and sugar consumption in the United States in 1937 will probably rise somewhat if the anticipated increase in consumer income is realized. The quotas which have regulated the volume of off-shore sugar sold in continental United States will expire December 31, 1937, unless congressional action extends them or substitutes similar measures. If such quotas are continued at that time, domestic sugar-beet producers can look forward to the possibility of some expansion of their production. The outlook for 1937-38 and beyond is therefore in part dependent upon the uncertainties surrounding sugar legislation.

Production of sugar from the 1936 sugar-beet crop in the United States will apparently be somewhat less than the minimum quota of 1,550,000 tons fixed by statute for the continental sugar-beet producing area. In the calendar year 1936 this area failed to fill this minimum quota by more than 200,000 tons. The quota system which determines the amounts of sugar marketed in the United States from all areas and

the marketing allotments for the continental sugar-cane and sugar-beet industries, which were both provided for by the Jones-Costigan Act of 1934, have been continued in effect until December 31, 1937. This action was taken by Congress's Public Resolution No. 109 in June, 1936. The outlook for that portion of the sugar produced from the 1937 crop which will be marketed in 1938 and for the 1938 and subsequent crops thus depends in large measure upon what legislation, if any, is enacted to regulate the sugar industry after the calendar year 1937 expires. California sugar-beet acreage harvested in 1936 was 143,000, an increase of almost one-fourth above that in 1935. This continued the rapid growth of an industry which in 1929 harvested only 46,000 acres. Higher yields this year than in 1935 and the increased acreage raised California's production of sugar beets in 1936 to about 2,000,000 tons, as compared with 1,443,000 tons a year ago. Both acreage and production of sugar beets for the United States increased substantially in 1936 over 1935.

Increases in United States sugar consumption in 1936 resulted in a rise in the estimated consumption requirements to slightly more than 6,800,000 tons, or 7 per cent above those for 1935. Quotas for the domestic cane-sugar industry were raised by about 50 per cent during the year and proportionate increases were allowed to quotas for insular and foreign off-shore sugar. Further increases in sugar consumption in the United States are likely to materialize if consumers' incomes continue through 1937 the upward trend manifested in the past three years.

Sugar production in the areas supplying most of the sugar consumed in the United States amounted to about 7,600,000 tons raw equivalent in 1935-36, an increase of 10 per cent above the preceding year. Almost two-thirds of this quantity was produced in areas which can sell free of duty in the United States market, this production being the third largest on record. In Cuba the low point of sugar production in recent years was reached in 1932-33; the production trend there again is upward.

World prices of sugar advanced during 1936 as a result of increased world sugar consumption although world sugar supplies were at record high levels. The larger supplies were a consequence of a sharp increase in world production which was great enough to offset the continued decline in world carryover to the lowest point since 1928-29. This rise in production was due to enlarged acreage as well as to somewhat higher yields. The International Sugar Agreement lapsed in 1935, but there are about 20 countries in which sugar is under some form of control.

WHEAT

The United States 1937 wheat crop will be considerably larger than domestic needs, and prices will decline toward an export basis if approximately normal yields are obtained on prospective acreage. Largely because of extremely low yields, domestic-wheat prices have been considerably higher than world market prices. World prices have been strengthened in the last few years by drought reductions in world wheat production. If near-average yields are obtained in 1937, world production will most likely be greater than world requirements, with resulting lower world prices. These would be reflected in lower domestic prices if the 1937 United States crop is large enough to place this country on an export basis.

The United States acreage seeded to wheat for the 1936 crop was the second largest on record. It appears (November) that the 1937 acreage will be at least as large as that of 1936. If this is so, production will exceed average domestic utilization unless growing conditions for the 1937 crop are so unfavorable as to reduce yields 25 per cent or more below average. For the long-time outlook, if the acreage seeded in 1936 is maintained and if the average yield for the ten years ending in 1934 is obtained, domestic production would average about one-third larger than our annual domestic disappearance of wheat. Exportable supplies in excess of domestic needs tend to force domestic prices toward the price levels of foreign markets. World wheat prices have been strengthened in recent years by a series of small crops in important surplus-wheat areas, largely because of drought. This crop reduction has resulted in eliminating large carryovers. If the 1937-38 world crop should again be small enough only to offset consumption, world prices could be expected to remain at high levels. However, if approximately average yields are obtained for the world crop, production will exceed current requirements and prices will tend to decline. The present world acreage is so large that if it is maintained over a period of years, average yields will again result in large world wheat surpluses.

Domestic-wheat supplies in 1936-37 are larger than the usual requirements of soft red, white, and hard red winter wheat, but supplies of hard red spring and durum will again be below normal minimum milling needs. The shortage of the latter classes will partially be made up by the excess of hard red winter wheat over average requirements and a greater use of soft red and white wheats in bread flour, and by imports from Canada. Although supplies of soft wheat have been ample for

domestic needs even during the past two years, the prices of soft wheats also benefited from an increased demand caused by the shortage of hard wheat. Though hard-wheat supplies have been short east of the Rockies, a surplus of soft wheat has persisted in the Pacific Northwest. California's wheat acreage in 1935-36 was 827,000, the largest since 1919; while this state's production of 484,000 tons also was the largest in many years. The prospect of lower prices in the long-time outlook emphasizes the importance of maintaining and improving quality in obtaining better-than-average returns.

SUMMARY OF TRUCK-CROP OUTLOOK

The reports received in November, 1936, from California, Florida, Texas, Arizona, and a few other early sections indicate that the combined acreage of vegetables for harvest in the late fall and winter of 1936-37 will be about 40 per cent larger than that harvested in these states in 1935-36 and 86 per cent above the average of 1928-29 to 1932-33. The acreage planted to these vegetables, however, is small relative to the total United States vegetable acreage and therefore has little effect on prices of late spring and summer crops.

United States production of commercial truck crops for fresh-market shipment in 1937 will probably be larger than the record high volume in 1936, chiefly as a result of an increase in acreage ranging from 5 to 10 per cent. A rise of about 10 per cent in the general level of vegetable prices in 1936 is expected to bring about this acreage increase. All sections of the country and all the important truck crops, except celery, onions, and spinach, are likely to show an increased production in 1937. It is expected that further improvement in consumer buying power will about offset the effects of increased supplies and maintain prices at about the same level as in 1936. If yields per acre in 1937, however, should be generally higher than average, production would probably be so large that prices would average lower than in 1936.

Food prices are slightly higher than they were in the fall of 1935. This is a favorable factor in the competitive position of fresh vegetables during the first half of 1937. Also the commercial supply of late cabbage, potatoes, and sweet potatoes is relatively short and the reduced carry-over of these crops into the winter months is expected to improve the market situation for winter and early spring vegetables. The total supply of canned vegetables is less than it was a year ago which should result in an improved demand for fresh winter vegetables and for canning crops in 1937.

ASPARAGUS

The large plantings during the last two years indicate heavier asparagus production in California after 1937 unless many of the old beds are removed. With average yields, however, asparagus production in the United States and California will be smaller in 1937 than in 1936 but larger than the production in 1935. With the expected increase in de-

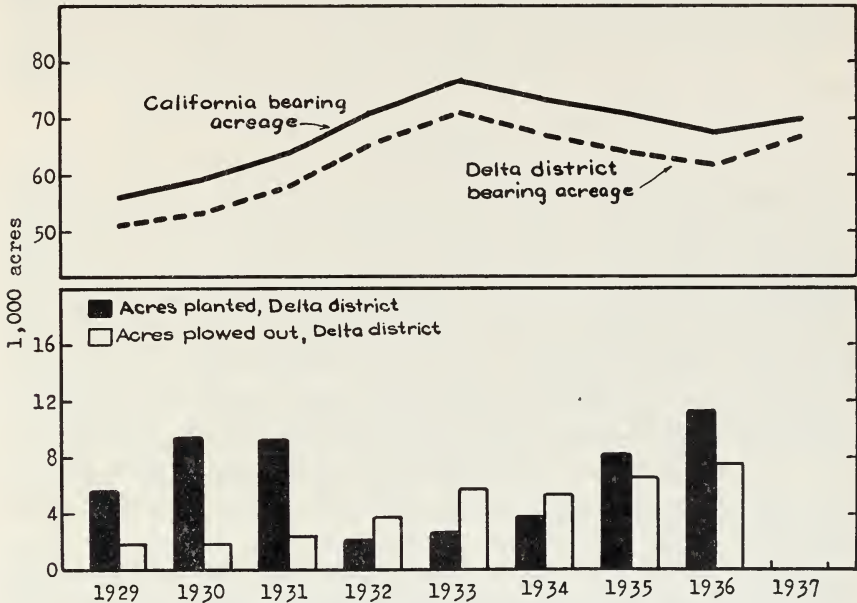


Fig. 5.—California and Delta district asparagus acreage.

mand for food products, prices to growers in 1937 will probably be slightly higher than those received during recent years; but prices may be at lower levels after 1937 if this heavy production in California materializes.

Production of asparagus in the United States increased from 5,500,000 crates (24-pound crates) in 1924 to 10,300,000 in 1930, which was then followed by lower productions for five years. However, in 1936, owing to exceptionally high yields, particularly outside of California, the asparagus production was the largest ever recorded, namely, 10,800,000 crates.

California production has followed the same trend as that for the United States; total state production of 7,600,000 crates for this past year was higher than that for any year except 1930. About 4,900,000 crates of this total were for canning and 2,700,000 crates for fresh

market. Since 1929, California has produced practically all of the regular canning asparagus in the United States and has furnished approximately 45 per cent of the fresh market asparagus.

The preliminary estimate of 68,800 bearing acres in California for 1937 and the heavy plantings in the Sacramento—San-Joaquin Delta during the past two years indicate that the California asparagus-bearing acreage will probably increase for the next few years. This conclusion is strengthened by the report from a survey of the Delta district made by the Cannery League of California and the California Asparagus Growers Association which states that growers intend to plant 14,600 acres in 1937, which may be expected to be in bearing in 1939.

Carlot shipments of fresh asparagus from shipping points in California began soon after the middle of February, 1936—one of the earliest seasons on record. The total shipments were 2,150 cars, which is less than those of any year since 1930 with the exception of the very small movement in 1935. As a result of the earliness of the season, 40 per cent of California's shipments were made before the last week of March when those from Arizona, Georgia, and South Carolina began; in past years the proportion of California shipments made previous to shipments from these competing states has varied all the way from 5 to 80 per cent, but it has averaged around 30 per cent. The average jobbing price of California fresh asparagus at New York for 1936 was \$3.31 a crate, the highest price since 1931.

Prices to growers for canning asparagus were also higher in 1936, being about 4 cents a pound, as compared with 3 cents a pound during each of the two previous years. The 1936 opening price on large white asparagus in No. 2½ cans was \$2.75 a dozen as compared with \$2.65 for the previous year.

Year	Pack	Carryover	Total supply	Consumption (includes exports)
	<i>cases</i>	<i>cases</i>	<i>cases</i>	<i>cases</i>
1933-34.....	2,135,000	454,000	2,589,000	2,313,000
1934-35.....	1,914,000	276,000	2,190,000	1,980,000
1935-36.....	2,238,000	210,000	2,448,000	2,143,000
1936-37.....	2,350,000	305,000	2,655,000	.....

As shown above, the supply of California canned asparagus in 1936-37 was the largest in several years, but a heavy consumption is expected to leave only an average or smaller-than-average carryover at the beginning of next season on March 1.

The increase in exports of canned asparagus during recent years may be checked during the present season because of recent currency devaluation in certain foreign countries. In the future, however, exports may benefit from nominal reductions in the duty on United States canned asparagus as a result of reciprocal trade agreements. In the 1935-36 season, exports of canned asparagus were 430,000 cases, or the largest on record with the exception of those during the 1929-30 season. During the first half of the current season, exports were about equal to those of the corresponding period of last year.

POTATOES

Potato prices received by California producers in 1937 are likely to be lower than 1936 prices but substantially higher than growers have received in other recent years. Prices are expected to be better during the first half of 1937 than during the last half. The relatively small carry-over estimated as the prospective United States stocks on January 1 will probably more than offset the increased production which is expected from an increased planting of early potatoes. Plantings of late potatoes are not expected to be materially increased. Prices of 1937 late potatoes should be better than those of 1934 and 1935.

The California farm price of all potatoes bears a close relation to the United States price as indicated in figure 6. Both are largely influenced by general demand conditions and United States production. California production is only a small percentage of this total, fluctuating about the 2 per cent level. Current and anticipated United States production is therefore of primary importance to California producers.

A slight increase in the total United States acreage planted to potatoes in 1937 over that planted in 1936 is in prospect. On the basis of these increased plantings and if yields should be average, the United States production of potatoes in 1937 would total about 370,000,000 bushels. Such a crop is about average, but would be about 11 per cent more than the relatively short crop indicated for 1936 by November 1 conditions. Because of the widespread summer drought and a 10 per cent reduction in the acreage planted to potatoes in 1936, production totaled 332,000,000 bushels (November 1 estimate), or about 56,000,000 less than the slightly larger-than-average crop of 1935.

In the section producing the second early potatoes, which includes portions of California and Texas, as well as Alabama, Georgia, Louisiana, Mississippi, and South Carolina, the crop of commercial potatoes

in 1936 was one-fourth larger than in 1935, as a result of larger acreage and better yields. Nevertheless, under a continued good demand for new potatoes, growers in this group of states received the high average price of \$2.28 a hundredweight as compared with only \$0.92 in 1935. Stimu-

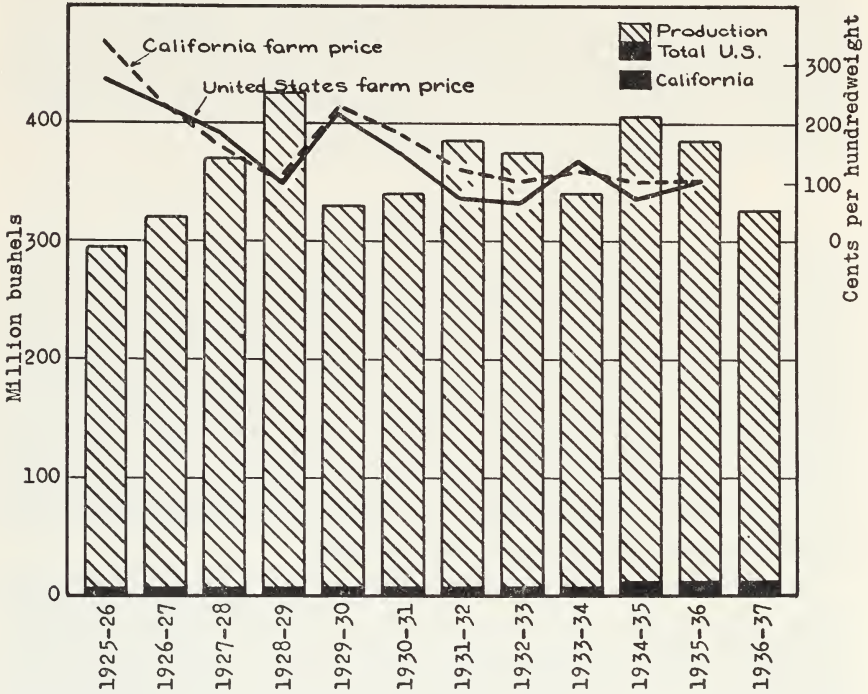


Fig. 6.—United States and California potato production and farm price per hundredweight for the crop marketing season, July to June.

lated by these favorable returns last spring, this group reports an intended increase of 28 per cent in commercial acreage for 1937, South Carolina and California showing the largest percentage increases.

A favorable factor for early-producing states, however, is the short 1936 crop in the late states where production is 12 per cent less than in 1935, the shortage occurring only in the ten central states. In this section the 1936 crop is about 30 per cent less than the relatively large crop of 1935, and 23 per cent below the 1928–1932 average. On the other hand, in the twelve western states the 1936 crop is about 8 per cent above average but about 3 per cent below that of 1935.

Prices to growers should be relatively favorable until the middle of 1937. Estimates, based on previous surveys and marketings, are that the January 1 stocks of potatoes on hand will be approximately 70,000,-

000 bushels. With average yields, the new commercial crop of potatoes in the twelve early states should total about 23,000,000 bushels making the prospective available supply for the 6-month period (January to June, 1937) approximately 93,000,000 bushels, which compares with the supply of 112,000,000 bushels the previous year and an average of 120,000,000 bushels. It would, therefore, appear that prices for potatoes can be maintained at favorable levels until the heavy movement from 1937 production begins late in June or early in July.

Prices of late potatoes have been higher in 1936 than in any year since 1929. The September 15 farm price of California potatoes was \$1.83 a hundredweight as compared with \$0.75 on the same date of the preceding year. The United States farm price averaged \$1.90 for this date in 1936 and \$0.79 in 1935. Because of shortage in the early, intermediate, and the ten central states this season, prices of potatoes during the greater part of the 1936 marketing season have held to levels higher than usual. No material increases in plantings of late potatoes are anticipated. Prices to growers are, therefore, likely to be favorable.

SWEET POTATOES

Prices for the 1937 crop of sweet potatoes are likely to fall below the average which growers will receive for their 1936 plantings. Although some improvement in general economic conditions is anticipated, the supply situation which can normally be expected during the marketing season of the 1937 sweet-potato crop is not likely to be nearly so favorable as that of 1936. An increase above the 12,000 acres which were planted to sweet potatoes in 1936 does not seem to be justified for 1937. This acreage is 9 per cent above both that of 1935 and the 1928-1932 average.

In addition to general demand conditions, important factors which influence the price of California sweet potatoes are (1) California production of sweet potatoes, and (2) California price of Irish potatoes. The latter is largely influenced by the United States production of Irish potatoes (see "Potatoes," p. 67-69). The relation between the farm price of sweet potatoes and both the farm price of Irish potatoes and the production of sweet potatoes is indicated in figure 7.

The November 1 estimate of 1936 sweet-potato production in California is 1,320,000 bushels, which is 7 per cent above the 1935 and 23 per cent above the 1928-1932 average production. In spite of this increased production the California farm price on September 15 (latest figure available) was \$2.27 a hundredweight as compared with \$2.09

on the same date of the preceding year. This has been due partly to improved demand conditions but largely to the short Irish potato crop in 1936. Prices of late Irish potatoes have been higher in 1936 than in any year since 1929. The September 15 farm price of California Irish potatoes was \$1.83 a hundredweight as compared with \$0.75 on the same

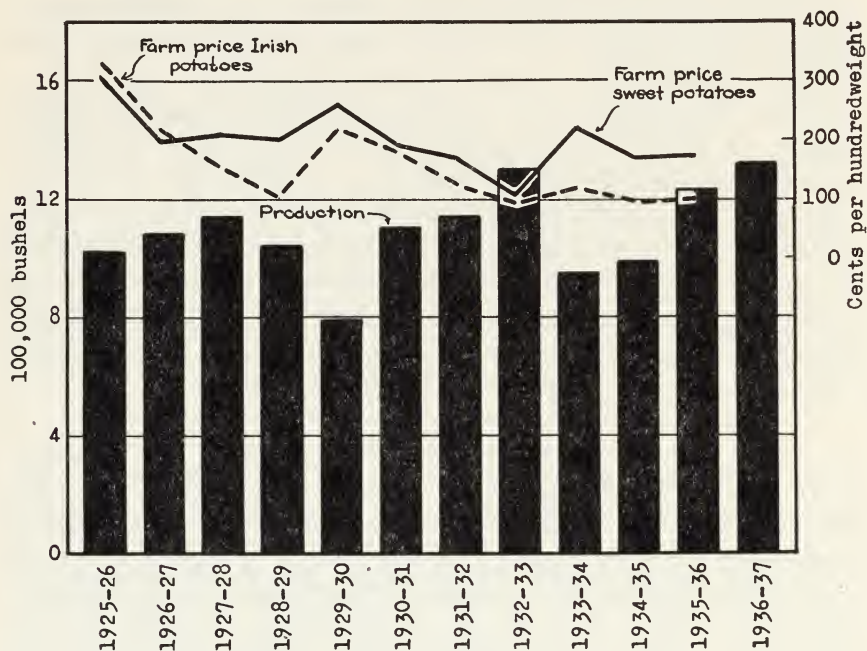


Fig. 7.—California production and farm price of sweet potatoes and farm price of California Irish potatoes for the crop marketing season, July to June.

date of the preceding year. Influences of the marketing program of the California sweet-potato growers and the expected continuation of better-than-average prices of Irish potatoes into the first half of 1937 are likely to keep prices up and result in better average sweet-potato prices for 1936 plantings than those received in 1935.

Expected conditions during the marketing season of the 1937 production are not so favorable. With normal yields, the 1937 United States production of Irish potatoes is expected to be higher than that of 1936. The relatively low carryover of the 1936 crop of Irish potatoes may offset to some extent the price-depressing influence of increased plantings of early potatoes in 1937 but when the heavy movement begins late in June or early in July prices are likely to decline. This is likely to have an unfavorable influence on sweet-potato prices. The carryover of 1937 pro-

duction will probably be higher than that of 1936. If this is coupled with still further increases of early Irish-potato plantings in 1938, as a result of two consecutive favorable years, and increases in production of California sweet potatoes owing to improved prices in 1936, then prices for 1937 plantings may be considerably below those of 1936.

TOMATOES

Tomatoes for Fresh Market.—The acreage of fresh-market tomatoes probably will continue upward in 1937 in both California and the United States. If the resulting increase in production is moderate, prices are likely to be about the same as in 1936, except that in the southern district of California, fall tomatoes may be marketed at somewhat higher prices than they were this year.

In the past, an increase in the United States average price has usually been followed by an increase in United States acreage. This tendency has probably been strengthened this year by the fact that growers received the highest average price since 1930 for the largest crop on record. Preliminary estimates indicate that 35,415,000 standard lugs of 30 pounds were produced for fresh market in the United States in 1936 as compared with 33,878,000 in 1935. Yields per acre in 1936 averaged about 192 standard lugs, slightly less than those for the previous two years. California produced around 6,476,600 lugs in 1936 on 26,300 acres with a yield of 246 lugs per acre.

Prices to growers for 1936 early-spring tomatoes in the Imperial Valley of California, the lower valley of Texas, and northern Florida averaged somewhat higher than in 1935, which may lead to increased acreage in 1937 for this group. The acreage of spring-grown tomatoes in these three areas this past year was approximately 50 per cent larger, and total production 66 per cent more than in 1935. The plantings of 1936 spring-grown tomatoes in the Imperial Valley totaled 4,000 acres, or about 12 per cent of the total for these three areas. Considering the group as a whole, yields averaged 131 lugs per acre, while that for the Imperial Valley was 239 lugs per acre.

Growers in the summer-tomato states reported substantially higher prices in 1936 than in 1935; hence, the recent acreage expansion in this group will probably continue in 1937. California summer-tomato acreage has had a phenomenal increase from 1,000 acres in 1930 to 9,000 in 1936. This state's 1936 production was roughly one-fourth of the total for the group, or about 2,703,000 standard lugs of 30 pounds.

Preliminary 1936 reports from the 14 states producing fall tomatoes

indicate the largest harvest on record and slightly higher prices than those received for the 1935 crop. As a result of these more favorable returns, growers in this group, which includes the northern district of California, may increase plantings somewhat in 1937. The northern district of California has an estimated 1936 production of 998,000 lugs on 5,650 acres, or a normal yield of 177 lugs per acre.

Growers of fall tomatoes in the southern district of California may plant about the same or slightly less acreage in 1937 than in the past year, since 1936 prices are reported lower than those of 1935. If yields are normal, it seems the production may be marketed at approximately the 1935 price, because of the expected small increase in demand next year. About 7,650 acres were planted in this district in 1936, and the crop was expected to be around 1,892,000 lugs.

Tomatoes for Manufacture.—Considering the low level of prices now being received by packers for canned tomatoes, it is likely that growers will receive prices for canning tomatoes in 1937 which will be approximately the same as those received in 1936. Packers are expected to reduce their contract acreage which ordinarily includes most of the acreage for manufacture.

After the large expansion in acreage from 1933 to 1935, United States acreage decreased slightly in 1936 to 460,000. California, however, had an uninterrupted increase from 30,000 in 1933 to about 75,000 in 1936. Although the 1936 drought greatly curtailed production in some areas in the United States, the yields in others were sufficient to bring the national average nearly up to normal and resulted in a crop which was estimated on October 10 as 1,739,000 tons, the second largest on record. Preliminary estimates indicate that the average price received by growers for this large production was slightly higher than last year's price of \$11.70 a ton.

During recent years the proportion of the tomato production for manufacture that has been utilized for canned tomatoes as such has declined because of the rapid expansion in the pack of tomato juice. In 1935, roughly 45 per cent of the tonnage was used as canned tomatoes, from 15 to 20 per cent as tomato juice, and the remainder went into various other products. Although statistics on the 1936 pack are not yet available, the output of tomato juice is expected to be larger than the 8,000,000 cases in 1935 and the pack of canned tomatoes is expected to be smaller than the 27,000,000 cases in 1935. The carryover of canned tomatoes has been small for the last three seasons; on August 1, 1936, it was only about 1,400,000 cases. Hence the total supply available for

the current season is expected to be between 26,000,000 and 27,000,000 cases.

At the present time, this large supply is moving into distribution channels at prices not much above the low prices received during the 1935-36 marketing season. These low prices combined with the expected increase in consumer buying power in 1937, will probably lead to another large disappearance of canned tomatoes similar to that of the past year, and will result in a small carryover into the 1937-38 season.

The California production of tomatoes for canning has increased from 150,000 tons in 1932 to 381,000 in 1936, when this state produced about 22 per cent of the United States total production. During the past eight years, the California farm price has fluctuated above and below the United States farm price, but they have never differed by more than \$1.00 a ton.

United States exports of canned tomatoes continued to be insignificant, amounting to only 70,000 cases last season. Imports during this period were the equivalent of 2,393,000 cases, the smallest in recent years; and they will probably remain small this season.

SUMMARY OF MEAT OUTLOOK

The 1937 total meat supplies in the United States will be less than those of the previous year largely because of the 1936 drought. Reductions will be most pronounced in the supplies of pork and the better grades of beef. The number of stock sheep on farms on January 1, 1937, may be even larger than on the same date in 1936. The supplies of poultry meat in the early winter are expected to be greater than in any recent year since 1931. Throughout 1937 they are expected to be less than in 1936. As further improvement in consumer demand for meats in 1937 is in prospect, the general level of livestock and meat prices in 1937 is expected to be higher than in 1936 and higher than for several years.

Even under favorable conditions for feed production in 1937, 1938, and 1939, it hardly seems probable that the resulting increase in livestock production will be reflected in a total yearly slaughter supply before 1940 equal to the average of 1930-1934. It appears likely that livestock producers generally will not be faced with a supply large in relation to the 1930-1934 average during the next three years.

BEEF CATTLE

Cattle numbers in the United States on January 1, 1937, are expected to be somewhat smaller than those of a year earlier and considerably

smaller than the peak number on January 1, 1934. They will be larger than the January 1 average of the period 1921-1935.

Even though cattle numbers at the beginning of 1937 are expected to be smaller than a year earlier, because of liquidation resulting from the 1936 drought, the inspected slaughter of cattle and calves will be larger than the ten-year average, 1924-1933. The general trend in numbers is likely to be upward during the next few years. As far as California is concerned, cattle numbers will probably be slightly greater on January 1, 1937, than they were a year previous. Should range and pasture conditions in 1937 be fairly favorable in the areas most severely affected by the 1936 drought, there will be a strong tendency for cattle ranches to be restocked and numbers increased. Even with slaughter supplies fairly large, the cattle industry will be in a rather favorable position because of the reduced hog supplies which are in prospect for the next two years. If hog production is then increased to anything like its normal level, the situation of cattle producers will be less favorable than it is expected to be during 1937 and 1938.

Consumer demand for beef and veal has been increasing since 1933, and there are indications that further improvements may occur in 1937. An increased buying power of consumers is in prospect and the supplies of pork will still be low.

In view of the smaller supplies of grain-fed cattle throughout the country and the prospective improvement in consumer demand, it is expected that prices of such cattle will rise to higher levels. If crop and pasture conditions are fairly normal in 1937, a broad demand for replacement stock of all kinds is in prospect in the spring.

Total imports of live cattle, calves, canned beef, and fresh and frozen beef during the first eight months of 1936, when converted to a live-weight equivalent, were equal to about 4.2 per cent of the estimated total live weight of all cattle and calves slaughtered in the United States during the same period. The corresponding percentage for 1935 was 3.4. Imports of canned beef have been increasing for several years. This increase in canned-beef imports has been brought about by the relatively high level of beef prices in this country and the restrictions placed upon imports of South American beef in European countries.

For the first eight months of 1936, prices to California producers for beef cattle were less than those of 1935. In August prices began to strengthen materially and in October prices were the highest since 1930. During the first ten months of 1936 California producer prices averaged \$6.11 per 100 pounds as compared with \$6.60 for the similar period of

1935 and \$4.04 for the corresponding months of 1933. The average price received by California producers for veal calves during the first ten months of 1936 was \$8.17 per 100 pounds as compared with \$7.69 and \$5.03 for the corresponding periods in 1935 and in 1933, respectively.

DAIRY

The increase in the purchasing power of consumers and the prospect that it will continue through 1937 and beyond are important factors in improving the dairy outlook. In California, as elsewhere, the decline in the consumption of market milk and cream and ice cream which occurred during the depression has apparently been halted and is now increasing.

On January 1, 1937, there will probably be not many over 25,000,000 milk cows in the United States, or a smaller number than in any January since 1932. The number on hand will probably be somewhat below average, and there are prospects for some further decline in 1937 and 1938. It is probable that prices of hogs and beef cattle will be sufficiently high to prevent expansion of dairying in the general farming sections of the Corn Belt. The expansion in the Cotton Belt was apparently checked last year. It seems probable that the decline in milk-cow numbers will not extend to California, where in June, 1936, a survey indicated a 2 per cent increase in milk cows as compared with the same date in 1935.

The feed shortage in the principal dairy sections of the country is one of the main factors in the outlook for the next few months. Grain supplies are considerably below average; hay supplies less so. Both grain and hay supplies can be built up during 1937. The drought of 1936 caused some liquidation of cattle and prevented an increase in the number of hogs. This situation will probably make for an ample supply of grain, and milk cows will be liberally fed after new feed supplies become available as long as the prices of dairy products are favorable. The long-time outlook is even more favorable than the prospect for the next few months. If feed crops are of approximately normal volume in 1937 and in following years, feed prices will probably decline in relation to dairy products. Being less affected by the drought than in most sections, California dairymen have maintained their herds. Furthermore, the milk-fat: barley, and milk-fat: alfalfa price ratios have not been so unfavorable in California as in the Middle West. In view of the national situation, the state's dairymen have a favorable outlook for the next two or three years.

Total milk production in the United States in 1936 will probably be

about the same as in 1935. During the winter of 1936-37 it will probably be considerably less than during the winter of the previous year. During 1937 and 1938 any increasing demand for dairy products will be met chiefly by increasing the production per cow rather than by milking more cows. This represents a healthy situation for the dairy industry because it means that milk production will probably be increased only as fast as prices of dairy products become high enough to justify more intensive methods of production.

During the latter part of 1937 the increased demand may not be sufficient to offset increased supplies of all dairy products which might follow favorable weather conditions throughout the country. The potential supplies of milk, both in the state and in the nation, are large. Any increase in supplies will probably be forthcoming by an increase in the production per cow rather than by an expansion in milk-cow numbers.

Storage holdings of manufactured dairy products usually reach the seasonal peak on September 1. This year (1936) they were far below either that of last year or the 1925-1929 average. Except for 1931 and 1932 butter holdings for September 1 were the lowest since 1923. During September and October, supplies did not move out of storage so rapidly and on November 1 stocks of manufactured dairy products were not greatly different from those of the five-year September 1 average.

Imports of butter and cheese into the United States are already increasing, and it is probable that imports of these products will continue to exceed those of recent years until the late spring or early summer of 1937. Concentrated-milk exports have been decreasing on account of the relatively favorable prices prevailing in the United States.

United States oleomargarine production in 1935 reached 381,000,000 pounds—a new record. For the first few months of 1936 production declined in comparison with that of the previous year. Since June, 1936, production has been ahead of the similar months in 1935, and if this increase continues, production of oleomargarine will exceed that of 1935.

The outlook for the next few years is for some rise in butter prices in relation to the prices of other commodities, including those which farmers buy. This will strengthen fluid-milk prices in city markets. With a prospect of increased consumption of fluid milk and cream in urban areas, the long-time outlook is for prices of fluid milk to be maintained and perhaps increased. With prospects for further improvement in employment and pay rolls, the outlook for 1937 and for several years afterwards is for higher production and consumption of ice cream. Consumption of concentrated milk increased during the depression. The long

trend of concentrated-milk production is probably upward. The probable short supplies of meats during the next year or two will tend to maintain a high demand for cheese.

California milk-cow prices in 1935 and 1936 strengthened materially from the low point reached in 1934. Milk-cow prices for the first ten months of 1936 were \$73.20 as compared with \$64.50 and \$40.50 for the similar periods of 1935 and 1934, respectively. With stability in the beef-cattle situation, indicated strength in dairy-product prices, and a shortage of hogs, indications point to a continued improvement in milk-cow prices.

During 1935 almost 32,000 replacements and additions were made in the Los Angeles milkshed. For the first ten months of 1936, shipments into this milkshed were running ahead of 1935.

HOGS

The number of hogs for slaughter in the United States in the present marketing year which began October 1, 1936, is expected to be from 10 to 15 per cent greater than in the two preceding marketing years, when the totals were the smallest in many years, but will probably be about 20 per cent less than the average of the five years prior to 1934-35. The market supply this year would have been larger had not the 1936 drought greatly curtailed feed-grain production and thereby compelled many hog raisers to change their 1936 fall farrowing plans. Average weights will probably be lighter than usual and about the same as in 1934-35 after the drought of 1934.

Hog slaughter during the three months, October to December, 1936, will represent a larger-than-usual proportion of the marketing year total. Supplies in the last quarter, July to September, 1937, are expected to be considerably smaller than in the corresponding period of 1936 but larger than in the same period of 1935.

On account of the dependence of California on Nebraska for a large part of its hog supplies, California hog prices are closely geared to those of the entire country. The yearly average of hog prices during 1936-37 will probably be about the same as in the previous year. The seasonal decline during the fall will probably be about average and will be followed by a considerably larger-than-average seasonal advance in the late winter and early spring. During the summer of 1937, prices will probably average higher than during the previous year. The California producer might well expect a seasonally high price in the late summer.

Expansion in hog production in the United States which was begun

in the fall of 1935 was checked during the fall of 1936 by the drought of the summer. High corn prices in relation to those of hogs during the last part of 1936 and the first part of 1937 will cause hog producers to raise fewer pigs in 1937 than in 1936. A favorable corn crop during the summer of 1937 would cause a sharp increase in breeding for the fall pig crop of 1937 and this would be reflected in increased slaughter supplies by the spring of 1938. It is not probable, however, that slaughter supplies can reach a volume equal to the five-year average of 1929-1933 before 1940.

The barley-feed price ratio has been far more favorable to the California hog producer during 1936 than has the corn-hog price ratio been to the average hog producer in the Middle West.

Further improvement in consumer demand for meats in this country is in prospect, but little change in the foreign outlet for American hog products seems probable.

On October 1 stocks of pork in storage were about 25 per cent less than average but they were 30 per cent larger than the unusually small stocks on hand a year earlier. On October 1, 1936, the quantity of lard in storage was more than twice as great as that of a year earlier and was equal to the 1931-1935 average for that date.

During the first ten months of 1936, hog producers of California received an average of \$9.22 per 100 pounds as compared with \$8.47 during the similar period of 1935 and \$3.56 in 1933.

POULTRY AND EGGS

A major influence in controlling both the numbers of poultry and the egg production in the United States until early 1938 is the present feed situation. Total numbers of chickens on farms are expected to be only slightly greater on January 1, 1937, than a year earlier because of this situation. On account of the unfavorable egg-feed price ratio which will probably prevail during this winter, it is not likely that production will be greatly different from that in 1935-36. In the last half of 1937, if the new feed crops show normal production, a more favorable egg-feed price ratio will tend to raise the rate of laying above that of the last half of 1936.

Commercial hatchings reported in the 1936 season average, throughout the country, about 25 per cent more than in 1935. The increase may be attributed to a more favorable feed-egg price ratio during the hatching season and to the larger flocks on hand March 1 in 1936 than in 1935. Since the ratio is likely to be less favorable in early 1937 than in 1936,

it is expected that hatchings will be less than in 1936. The total hatch may be less, because the burden of replacement in areas where a heavy liquidation of laying flocks has taken place will fall on commercial hatcheries.

The 1935 hatchery sales in California were the largest in five years. The results showed in an estimated increase of approximately 15 per cent in the number of chickens on California farms. Undoubtedly the relatively favorable egg-feed price ratio of the winter of 1935-36 and the spring of 1936 accounted in part for an even heavier hatch than in 1935. Although the hatchery sales in California during August and September, 1936, were slightly below those reported for the same months in 1935, they were well above the averages for those months for the four years, 1931-1934. Since summer, however, the feed situation has been relatively unfavorable because of the drought in the Middle West. This will undoubtedly induce a larger-than-normal amount of culling in California flocks and a somewhat smaller hatch in the spring of 1937.

Egg receipts at four markets—New York, Chicago, Boston, and Philadelphia—during the first nine months of 1936 were 10 per cent greater than the receipts for the same period of 1935. With the unfavorable egg-feed price ratio prevailing and the indicated culling of flocks, it would seem probable that these receipts might decline to about the level of the 1935-36 winter. Carlot shipments of eggs from California increased by over 100 per cent in the first nine months of 1936 as compared with the similar period of 1935. For the other Pacific Coast states the increase was far less—the total increase being about 20 per cent.

Farm prices of eggs in California for the first ten months of 1936 averaged 22.8 cents a dozen as compared with 25.3 cents for the similar period of 1935. In the country as a whole the corresponding prices were 21.2 and 23.0 cents, respectively. The differential in favor of the California eggs lessened in 1936 as compared with 1935. The stocks of eggs in storage on November 1, 1936, were less than for other recent years except 1932. It is likely that storage stocks will continue relatively low until January 1, 1937, when stocks of shell eggs cease to be a major source of supply. There has been a tendency to handle an increasing proportion of the storage stock as frozen eggs over a period of years. On November 1, storage stocks of frozen eggs were relatively not so low as those of shell eggs. They were approximately the same as the 1931-1935 average on the same date. On the Pacific Coast, holdings of shell eggs in November were at least 20 per cent less than they were on the same date in 1935, while those of frozen eggs were approximately the same.

Poultry meat supplies in the United States during the early part of the 1936-37 winter are expected to be greater than in any recent year except 1931. The 1936 hatch in the United States was 25 per cent above that of 1935, and much of this will be marketed because of the feed shortage. The poultry marketings throughout 1937 are expected to be less than in 1936 because the heavy marketings of the 1936 fall and early winter will be at the expense of those of the 1937 spring. In the fall of 1937 the marketings will probably be smaller on account of an anticipated smaller hatch during the coming 1937 spring.

Reflecting the heavy marketings of the late summer, storage stocks of frozen poultry on November 1, 1936, were the largest on record for the month. This situation will probably prevail during the whole into-storage season so that the frozen stocks on January 1, 1937, will be on a record level. These stocks will be a main source of supply during the spring of 1937. On the Pacific Coast storage holdings of frozen poultry in November were double those on the same date in 1935.

For the first eight months of 1936, chicken prices both in the United States and in California were higher than those in 1935. The large marketings, coming as a result of the drought, forced prices lower than those of 1935 beginning in September. This situation will very likely continue until the summer of 1937.

Indications point to a turkey crop in 1936 about a third greater than that in 1935 and somewhat greater than the large number raised in 1932 and 1933. Storage stocks of turkeys are expected to be larger than average at the peak on February 1, 1937. Feed supplies generally are less this year, and birds will probably be sold at earlier ages and at lighter weights. The relatively low turkey prices which will probably prevail and the high feed prices will tend to discourage production in 1937. In all likelihood not only will a smaller number be raised but an improved demand is probable.

SHEEP AND WOOL

Sheep numbers in the United States are expected to decline somewhat in the next few years. It seems probable that further expansion in the western sheep industry will be prevented and perhaps some decrease will occur as a result of the grazing control measures for the public domain which are being put in effect under the Taylor Grazing Act. In the "native" sheep states, on the other hand, the number of sheep has increased moderately in recent years, and further increases may occur in the next few years if the Soil Conservation Program causes a sub-

stantial and permanent shift of acreage from grain to pasture and hay. The above-mentioned increases will hardly be large enough to offset the probable decreases in the western sheep states.

In California an increase in sheep numbers during 1935 brought the January 1, 1936, estimate to the high point of recent years. While most sheep are at present in good condition the moisture conditions of the early winter will materially affect the early lamb crop of the state.

Of especial importance to the California lamb producer is the fed-lamb crop. The number of lambs to be fed for market during the 1936-37 marketing season is uncertain, but the latest prospects are that it will be larger than a year earlier. A prospective improvement in consumer demand for meats will probably offset the effect of a slightly larger supply of lambs.

During the spring of 1936, California lamb prices were materially higher than those of 1935. Average weights and the general quality of lambs were not so good as in the latter year, which was the best in five years, at least. The average weighted price received by the California producer during the first ten months of 1936 was \$7.97 per 100 pounds, as compared with \$6.66 in the same period of 1935 and a low of \$4.68 in 1933.

During the next few years lamb prices will be strengthened somewhat by the small total supplies of livestock for slaughter. Yet, as cattle and hog slaughter increases at the end of several years, the effect of this increase in supplies upon cattle and hog prices will be much greater than the effect on lamb prices. On the whole, from the standpoint of lamb prices it appears that the situation of the sheep industry in the next five or six years will compare favorably with the situation for other species of meat animals.

Production of shorn wool in 1936 was slightly smaller than in 1935, and total supplies of wool on hand in this country at the end of September were about the same as a year earlier, when they were the smallest for several years. Supplies of wool in foreign countries also are below average.

Consumption of wool during the first eight months of 1936 was smaller than a year earlier, but it was larger than for other recent years. Mill consumption in most other important wool-consuming countries has been relatively large in 1936.

During the last half of 1935, prices received for wool in the United States rose gradually and this rise continued through the first half of 1936. During the last half of the year prices continued to be firm. For

